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THIS WEEK'S NEWS

NEWCASTLE-UPON-TYNE Regional Hospital Board invite applications by March 3 from architects interested in the project of preparing plans of a new General Hospital for West Cumberland. p. 127

WHAT IS BELIEVED to be the first prestressed fixed arch bridge to be constructed in this country is illustrated on p. 131

THE QUESTION, "Should the main contractor be allowed to inspect the original 'draft taking-off' prepared by the professional surveyor when the work is being re-measured?" is asked by a correspondent. p. 140

A PRIVATE MEMBER'S BILL to secure the satisfactory completion of streets adjacent to new buildings before building work begins is due for second reading in the House of Commons to-day. p. 146

A SERIOUS SHORTAGE of steel was reported at the annual meeting of the L.M.B.A., and we publish a selection of views on this subject. p. 151

SPEAKING at Liverpool on January 22, Mr. Robert O. Lloyd said that it was to be hoped that Mr. Dalton would recognise the opportunity of giving added impetus to the housing programme and see his way clear to give greater scope to private enterprise builders by making an early revision of the present 4 : 1 ratio. p. 152

THE MINISTERIAL CHANGES

AFTER five and a half years as Minister of Health, Mr. Aneurin Bevan moves on to the now vitally important Ministry of Labour and National Service. At the same time responsibility for housing and certain other local authority services is being transferred from the Ministry of Health to the Ministry of Town and Country Planning which will now be called the Ministry of Local Government and Planning.

Mr. Bevan's tenure of office will be remembered both for its duration and for the controversies which it has aroused—controversies which the Minister himself has done nothing to abate but has rather inflamed. But as political passions subside it will, we think, become apparent that Mr. Bevan has been far from a failure as Minister responsible for housing. In spite of the universal disappointment that more has not been achieved, the building of some 200,000 houses a year is, under present conditions, no mean achievement. The planners seem to have taken the view from time to time that it was more than the country's economic position justified, and it is generally believed that it was Mr. Bevan's insistence that prevented serious cuts being made. Be that as it may, there is no doubt that Mr. Bevan has set his face against sacrificing quality for quantity—a stand for which, on the long view, Mr. Bevan deserves the country's thanks. So too with his insistence that housing estates must be balanced communities—a view which received legislative sanction with the passing of the Housing Act, 1949. That Act, besides revolutionising local authority housing by extending it to all classes of the community, also introduced the principle of improvement grants to raise the standard of accommodation afforded by existing houses. For the present, economic conditions have prevented such grants being made on any large scale, but when the time comes that this is possible these provisions of the Housing Act will be seen as a very important piece of social legislation.

Mr. Bevan's defects have been his prejudice against private enterprise and his over-rigid application of controls. There can be no doubt that but for his attitude on this point more houses could have been built and built more cheaply. That is not to say that we share the view put forward from certain quarters that by removing the controls over private building the housing problem would be virtually solved—that, in our opinion, is a foolish view. But with less rigid controls, the number of houses built might well have been 10 per cent. greater and they would almost certainly have cost less.

In extending our best wishes to Mr. Dalton as the new Minister in charge of housing, we would therefore express the hope that he will adopt a more elastic policy than his predecessor. Mr. Dalton takes up a formidable task: he assumes office at a time when it is likely to be even harder than during the past few years to find the resources for housing and the environmental health services. Mr. Dalton will also have to face the problem of maintaining existing houses as well as of building new ones; that will be partly a problem of labour and materials, but even more of finance—and that means rentals. In spite of the political and economic troubles which an increase of rents is likely to involve, the problem must be faced: otherwise we shall soon reach the situation in which houses are going out of existence as fast as new ones are built.

The problems of housing to-day might well have been deemed

sufficiently formidable to justify their being placed under a Minister with no other departmental responsibilities. As it is, they have been separated from health and attached to town and country planning, where they now more logically belong. It is to be hoped that these new responsibilities will not cause the Minister to forget the problems of town and country planning. There are still many aspects of planning policy which require the closest attention; in particular the administration, if not the substance of the Act of 1947 needs considerable overhaul. Moreover, during the next two years or so the Ministry will have the task of considering the development plans of all but two of the 144 local planning authorities—a formidable and responsible task on which Mr. Dalton must give his Department some guidance.

Mr. Dalton has an immense task before him. He also has a wonderful opportunity. We offer him the good wishes of the building professions and industry in the knowledge that he can rely on their full co-operation.

BUILDING LICENSING

AS it is impossible to foresee when Defence Regulation 56A will be revoked, it is essential, in view of certain recent proceedings in the Criminal Courts, that more detailed guidance from the Ministry of Works is required than that contained in the Notes for Guidance issued in November, 1948. This detailed guidance is essential in the interests of architects, builders and building owners. None of these people desires to evade the law, but the uncertainty of what building work requires or does not require a licence may lead to unintentional illegality. The result may be a prosecution of any or all of the parties to a building contract, with perhaps disastrous consequences.

The Notes, issued in November, 1948, describe the work requiring a licence which includes work done in the construction, reconstruction, alteration, demolition, repair, temporary repair, decoration or maintenance of a building ; work required for the purpose of providing water, light, heating or other services and *any other fixed works of construction* or civil engineering, including a road. The cost of the building work must include all labour, materials and fittings (whether new or second-hand or already the property of the owner or contractor), builder's overheads and profit, hire of plant, fees charged for technical and professional services and any other charges paid by the party for whom the work is being carried out. Professional fees may be excluded if the building licence is so endorsed.

This description might be thought to be comprehensive, but the phrase " any other fixed works of construction " has in practice led to differences of interpretation. It may be said that in the last resort interpretation is a matter for the Court, but the building industry feels that in the first resort interpretation is a matter for the Ministry of Works, and to that end a comprehensive list of items should be published so that there can be no doubt as to what must be included in any application for a building licence. The absence of such a list may mean that a person has to spend money in law costs in order to obtain a judical interpretation, and having obtained that interpretation spend further money in defending himself when prosecuted for infringement—a somewhat Gilbertian situation !

It has been suggested that the distinction between landlord's and tenant's fixtures is the test of work requiring a licence, that is to say, can the work be removed without damage to the structure, the work being carried out with a view to ultimate removal ? If such a test is capable of being applied, then the Ministry must define the degree of fixation required to bring the work into licensing requirements. Unless this is done it would be unwise to rely on such an interpretation.

The Notes state that oral permission for work to proceed does not constitute a valid licence, nor can licences be issued with retrospective effect. Though in cases of infringement the Ministry may decide to take no action against the parties, any excess over the licensed amount is illegal and is not legally recoverable by the builder, and the architect is in the same position in regard to his fees on the excess.

The Notes invite a written inquiry to the licensing authority in any case of doubt, and such an inquiry must have a written reply if it is to be of any value. Oral statements by a licensing authority would have no validity.

It is not for professional or other institutions to attempt interpretation ; that is a matter entirely for the authority administering licensing law. The building industry is entitled to the fullest detailed information in published form as to what work requires a licence and what does not require a licence. The industry is anxious to comply with the law but is equally anxious to know what the law is. If the Ministry wish to assist the industry and clarify an ambiguous situation, it would do well to issue detailed interpretations at the earliest moment. Otherwise the law is likely to fall further into disrepute and an honourable body of men continue to find themselves in danger of infringing the criminal code.

NOTES AND NEWS

Nine Elms Terminus Preserved

THE Nine Elms building which formerly served as the terminus of the London and Southampton railway was one of Sir William Tite's earliest essays in railway architecture. Completed in 1837, it is remarkable as a prototype of the modern terminal, embodying the three principal elements of main building with booking hall, a concourse and covered platforms. Externally, it stands much as designed, in brick faced with stucco, and a very dignified building it remains, as our photograph shows.

In an illustrated article in our issue for October 2, 1942, we made the suggestion that, as the station buildings are a historic monument that deserve to be preserved, " if they survive the war the Southern Railway would do a service to architecture and to physical history if they could see their way to retain these interesting buildings in any scheme of replanning." It is the more pleasant, therefore, to notice that a committee of the British Transport Commission recommends that the old terminus should become a museum to house a railway display, especially large exhibits such as locomotives, rolling stock and mechanical installations. Many people, and not architects only, will be delighted to know that these buildings should now be safe.

" Inappropriate " Development at Chelsea

AT THE MEETING of Chelsea Borough Council on Wednesday the Town Planning and Amenities Committee drew the attention of the Council to the " inappropriate " development taking place in Old Church-street, south of the King's-road. The Committee gave instances of a number of cases where the London County Council has granted consent for commercial development in Old Church-street against the recommendations of the Chelsea Council, and recommended that their views be communicated to the L.C.C. and to the Chelsea representatives on the L.C.C., in the latter case with a request that they should support the Committee's representations.

In their report, the Committee state that before the war the businesses in Old Church-street were small and virtually innocuous. Now they have enlarged themselves, changed character and in a number of ways become unsuitable and harmful to the neighbourhood. This tendency is considered more objectionable as it also affects the amenities of residential properties in Danvers-street and part of Paultons-square and Lawrence-street.

Examples given include No. 46, formerly a shop, office and residence, permission for the conversion of which to an ice-cream factory was given by the L.C.C. in spite of the Chelsea Council's objection. At another address the L.C.C. overruled the Council's objection to the erection of a timber and asbestos hut. The taking over of garage accommodation formerly used for private cars by the B.O.A.C. is also criticised as adding to the private garage shortage, though in this case consent was not necessary as there was no change in user. The Committee state that this is obviously a weakness in the Town and Country Planning Act. Although the use remains the same, local residents have been deprived of an amenity of great value.

The Committee feel that the granting of consents for commercial users on the basis of nearness to existing industrial or commercial users, or as part of " commercial pockets," is a bad practice which could ulti-

mately lead to the total commercialisation of this part of Old Church-street.

Tyringham for Sale

TYRINGHAM HOUSE, BUCKS, Soane's most important house, is for sale. It is advertised as providing "extensive accommodation, in good repair, suitable for commercial, educational or institutional use (subject to planning consent)." Another problem of what to do with a house of "architectural and historic interest" which has outlived its purpose. Soane spent seven years over Tyringham (1793-1800), and was so pleased with its famous vestibule that he used it as a diagram for his academy lectures. But it was not an economically designed house and was extensively reconstructed so that little remains internally of Soane's original design. Let us hope that what does remain may be allowed to survive if further alterations should be necessary to convert it to "commercial, educational, or institutional use."

Financing the Client

THE LATE Arthur T. Bolton records an interesting fact, as showing the close relations that existed between Soane and his client for Tyringham, one William Praed, a banker. Praed had got into financial difficulties and Soane at once paid some £11,000 of the tradesmen's bills for the house. "To do this Soane sold Bank Stock at 179, and Praed was to repay him in the same stock later on. When this came about in 1817, however, Bank Stock had risen to 250, and Soane has left a calculation proving that he had lost an equivalent sum to his advance by not insisting on his right to be repaid in Stock instead of in cash. How many architects would remain in practice to-day if they had to finance their clients' projects and then lost heavily as a result of their generosity?

Opportunity for Design of Hospital

THE NEWCASTLE-UPON-TYNE Regional Hospital Board invite applications by March 3 from architects interested in the project of preparing plans for the erection of a new General Hospital for West Cumberland. The site is at Homewood, Hensingham, Whitehaven, and architects should forward their names and full details of experience in planning and erection of large public buildings to Mr. E. B. Jenkins, Secretary to the Board, "Dunira," Osborne-rd., Newcastle-upon-Tyne, 2, from whom further details may be obtained.

An Architect's Appointment

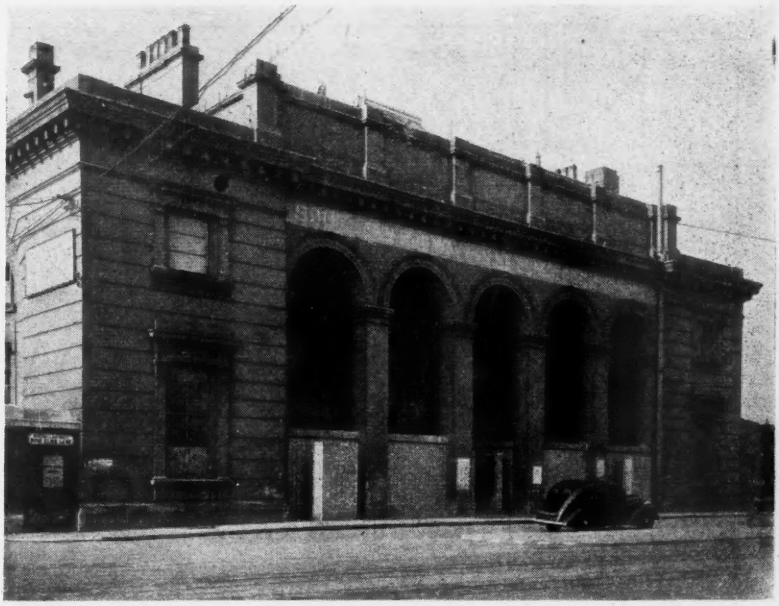
MR. H. NEVILLE PLAYER, A.R.I.B.A., deputy Borough Architect for Widnes, has been appointed Borough Architect.

An Architect's Estate

MR. A. C. BUNCH, of Leamington, former vice-president of the R.I.B.A., and Warwickshire County Architect 1921-45, left £11,799 gross, £11,637 net value.

Designs for Hotel Reception Office

THE results of the eighth Industrial Design competition organised by the journal "Art and Industry" and sponsored by the Plastics Division of I.C.I., have now been announced. This competition—open to both architectural and industrial design students—was for the best design of a hotel reception office, using plastic materials. The first prize (£50) was won by Mr. Henryk Blachnicki, a student of the Polish School of Architecture, and the second prize by Mr. Andrew Jackson, of Edinburgh.



THE NINE ELMS TERMINUS: Seen above is the old terminus of the London and Southampton Railway, completed to Tite's designs in 1837. A proposal to establish a railway museum in the building is referred to in a Note on facing page

Lost Victoriana

WHAT DO EXILES returning to London after many years abroad miss most in the scene to-day? This, put in the form of an open question, would inevitably bring in many answers, ranging from bombed buildings to strong beer, but a reader of *The Times* has suggested that the balloon lamps at New Palace Yard (taken away at the start of the last war and not returned) are painfully conspicuous by their absence.

We can well recollect the charm of these lamps; they added much to the traditional Westminster scene. On a wintry night their distant glow re-evoked the era of Palmerston and Disraeli with uncanny nostalgia. Could we not have these lamps back? It seems a pity that small adjustments such as these should be overlooked in the process of return to normality. The traditional London scene, especially the Parliamentary scene, is well worth preserving. In this particular case it could, we imagine, be done with comparative ease.

R.I.B.A. Intermediate Examination

THE R.I.B.A. Intermediate Examination was held from November 3 to 9 last. Of the 833 candidates examined, 320 passed and 513 were relegated.

Professional Announcements

W. G. PHILLIPS AND PARTNERS, 97, Mortimer-st., W.1, announce that they will be taking occupation of new office premises at 14/15, Conduit-street, W.1, as from January 29. Tel.: Mayfair 2772-3.

MESSRS DOCKERILL AND CROOT, chartered quantity surveyors, of National Provincial Bank Chambers, 42/44, Holdenhurst-road, Lansdowne, Bournemouth, have taken into partnership two chief assistants, Mr. B. M. Marston, A.R.I.C.S., and Mr. J. H. Nunn, A.I.A.S. The style of the firm will now become Croot and Partners and will continue to practise as quantity surveyors at the same address.

MR. N. GUNN ROBINSON, Dip.Arch.(Liv.), A.R.I.B.A., has opened an office at 88, Argyle-street, Birkenhead, and would be pleased to receive trade catalogues, etc.

COMING EVENTS

Tuesday, January 30

N.F.B.T.E.—Annual dinner at which the Minister of Works, Mr. Richard Stokes, M.P., will reply to the toast of H.M. Government. The Dowager Marchioness of Reading will also speak. Dorchester Hotel, Park-lane, W.1. 7 p.m.

HOUSING CENTRE TRUST.—"Housing and Planning Problems in Slough," by Mr. P. W. Macfarlane, F.R.I.C.S. 13, Suffolk-street, Haymarket, S.W.1. 5.30 p.m.

TIMBER TRADES BENEVOLENT SOCIETY.—Annual meeting. 69, Cannon-street, E.C.4. 11.30 a.m.

INSTITUTE OF FUEL.—A paper and discussion on "Drying Technique." Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1. 5.30 p.m.

Wednesday, January 31

ARCHITECTURAL ASSOCIATION.—Messrs. S. A. W. Johnson-Marshall and Robert H. Matthew, AA.R.I.B.A., on "Research and Development in Public Offices." 36, Bedford-square, W.C.1. 8 p.m.

ARCHITECTURAL ASSOCIATION.—Exhibition of photographs by members. A.A., Bedford-square, W.C.1. Continuing until February 23.

INSTITUTE OF WELDING.—"Continuous Welded Structures, Abbey Works, Port Talbot," by Mr. W. S. Atkins, B.Sc. Inst. of Civil Engineers, Great George-street, S.W.1. 6 p.m.

Thursday, February 1

TOWN PLANNING INSTITUTE.—"Costs of Town Development," by Mr. A. Limon. Caxton Hall, Westminster, S.W.1. 6 p.m.

Friday, February 2

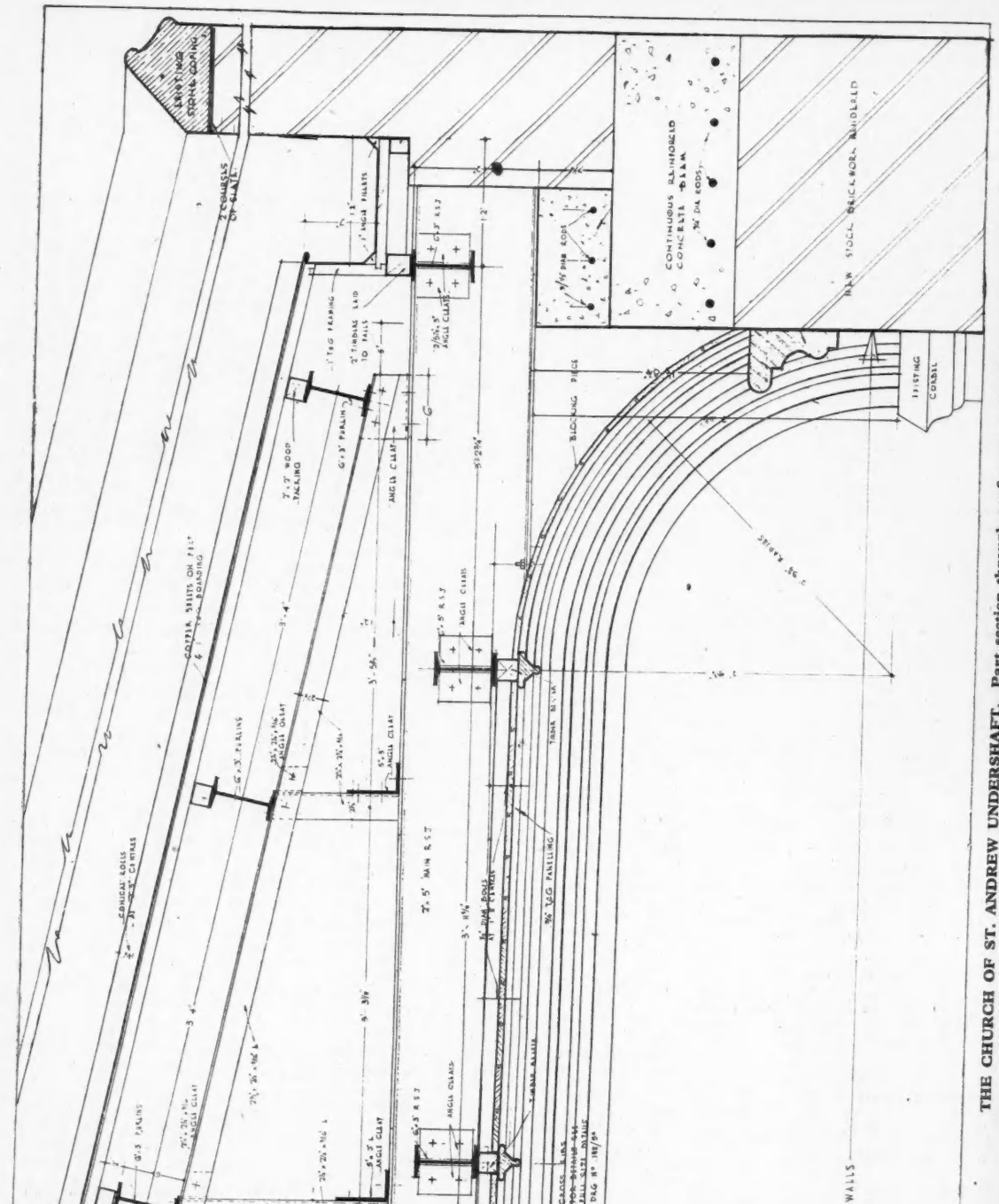
INSTITUTE OF REGISTERED ARCHITECTS (LONDON AND HOME COUNTIES BRANCH).—Annual Branch dinner. "Horse Shoe," Tottenham Court-road, W. 7 p.m.

R.I.C.S. (JUNIOR ORGANISATION).—Annual dance. Bush House Restaurant, Strand, W.C.2. 7.30 p.m.

FROM "THE BUILDER" OF 1851

Saturday, January 25, 1851

THE EFFECT ON ARCHITECTURE OF THE BUILDING FOR THE GREAT EXHIBITION.—Although the Great Exhibition of 1851 is an object of intense interest as well as hopefulness to the great bulk of the inhabitants, not only of this country, but of all the civilised nations of the world, there is a large class of philosopher of the "nil admirari" school whom one meets with everywhere, who go about asking *cui bòno?* and prophesying nothing but evil and disappointment from this great industrial concourse of nations, and utterly unable to discover what good can arise to anyone or to any art from such a monster exhibition. . . .



THE CHURCH OF ST. ANDREW UNDERSHAFT. Part section through roof as reconstructed

The ceiling as restored. The clerestorey walls and windows had to be demolished and rebuilt on the average for half their height

REPAIRS TO A CITY CHURCH

Roof and Ceiling of St. Andrew Undershaft

THE roof of the church of St. Andrew Undershaft, situated at the corner of St. Mary Axe and Leadenhall-street in the City of London, was slightly damaged during the war by an incendiary bomb, and in some respects it may be said that it was fortunate that damage was sustained as, on opening up the roof to carry out the war damage repairs, the architects found that the roof timbers were seriously affected by the depredations of both death watch and furniture beetles and that several main beams were badly fractured through causes other than war damage. The roof being in danger of collapse, the architects advised the immediate closing of the church and, after consultation with the District Surveyor and Dangerous Structures Surveyor, a protective scaffolding was erected, and used later for building operations.

It was decided that the carcase of the new roof be constructed of steelwork, as nearly as possible a reproduction of the existing, but covered with copper instead of lead. The pitch was increased to enlarge the internal space and facilitate periodical inspections, which, due to restricted space and absence of any form of access, had hitherto been impossible. Carefully measured drawings were prepared and photographs taken recording all mouldings and showing the positions of carved and gilded bosses.

The old roof was carefully removed in sections under temporary coverings, each section being reroofed before the next section was commenced. It was found that, while the main beams, purlins and rafters were of heavy timbers, principally oak, 14 in. by 12 in. down to about 6 in. by 4 in., the effective bearing was often less than 1½ in. by mortice and tenon joints or by shallow notchings of one member to another. As a consequence, a number of beams and rafters had split; others had fractured due to short grain and due to sagging; in several cases the bearings had been reduced to ¼ in. and cut nails. It will be seen in one of the accompanying illustrations how precariously some of the main ceiling beams clung to the principals. A ceiling beam fractured at the point indicated by an arrow has been slung in the past to the ridge member above. This ridge beam was riddled with death watch beetle.

The old masonry, sound enough while undisturbed, consisted of an outer and inner thickness of stone filled in with chalk, the outer stonework being covered with a cement rendering. It was found to be unfit to carry the new roof, and therefore instructions were given to take down the walls to the level of the springing of the clerestorey windows and arches.

To strengthen the structure and to spread the roof load, a reinforced concrete beam was formed for the full thickness of the north and south walls carried round the angles on to the east and west gables at each end. A similar beam was formed for the length of each gable, the bed of the beams being level with the top of those on the north and south walls and carried round the angles with the reinforcements interlaced, thus forming a strong tie at each corner. Over the stone arches to the clerestorey windows, reinforced lime concrete lintols were formed with two thicknesses of felt paper laid between the top of the lintols and the underside of the continuous Portland cement concrete beams. By this means the loading of the arches was reduced to the minimum and as a further precaution Monel-metal hangers were let into the stonework and set into the lintols, and open joints (due to long-standing settlements) wedged and pointed up. Portland cement concrete pads, set on a bed of lime mortar, were formed on the piers between the arches to receive the new brick walling.

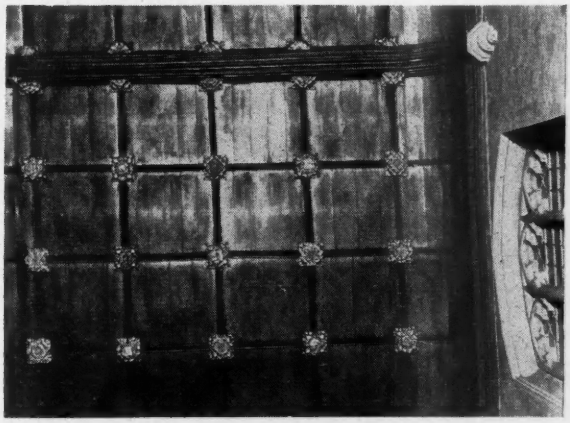
Walls Partly Rebuilt

The walls above the springing of the arches up to the new beams and the parapets were rebuilt in stock brickwork in cement mortar, except where laid on or abutting the stonework, where lime mortar was used, copings refaced, mouldings reformed and the whole finished as previously existed.

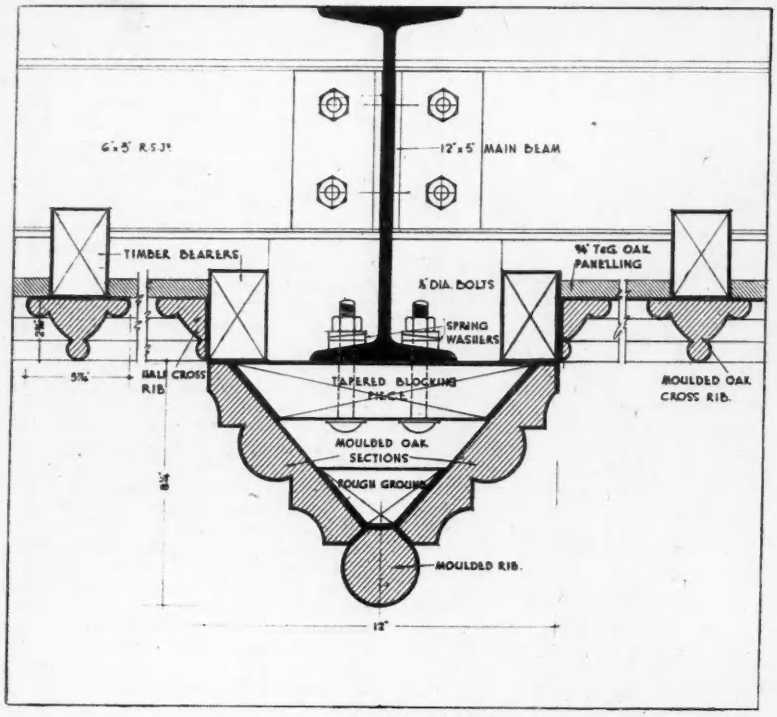
The moulded stone corbels to carry the curved braces from the main beams were reset in the new wall.

The necessity for taking the detailed measurements became apparent in preparing the materials for the new roofs, for the centres of the main beams varied considerably and all angles were out of square, so that every piece had to be prepared separately.

The roof principals were formed of rolled steel joists with rolled steel rakers and



A bay of the original ceiling. Photographs were taken of the whole ceiling before demolition

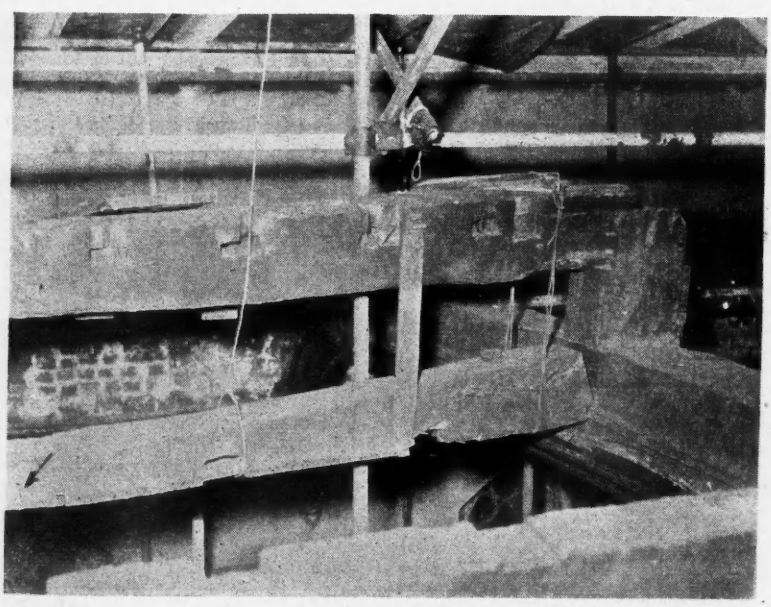


Detail drawing of main beams

purlins and steel angle struts. Deal plates, 2 in. by 2 in., were bolted to the steelwork to receive the roof boarding. Rolled steel joists were then fixed and cleated between the principals to carry the box gutters and the ceiling. The roof was covered with 1-in. tongued and grooved boarding and sheet copper, the gutters being formed of similar materials. Access doors were provided for periodical inspection of the roof.

Steel for Carcassing

Considerable difficulty was experienced in procuring sufficient sound, dry oak in long lengths for constructional stability and for uniformity of colour to form the ceiling. This was the main reason for carcassing in steelwork and for building up the oak beams upon seasoned softwood cores. These were bolted and screwed into position, the heads of screws and bolts sunk and pelleted. The curved braces were built up in a similar manner, on deal bracketing, supported by the refixed stone corbels. The ceiling is of ¼-in. selected oak tongued and grooved boarding, that forming coving against the walls being in narrow widths. Moulded oak cross ribs to form the ceiling panels were screwed through the face of the boarding to the deal bearers, each length having to be separately measured and scribed to fit the bosses at the junctions of the ribs. The bosses, which had been carefully stored after removal, were treated against beetle and re-gilded, and the coats-of-arms emblazoned and carefully refixed into their original positions.



Detail of ceiling, principal and ridge beams, showing ¼-in. bearing, fracture (indicated by arrow) and old iron supports, the latter made useless by the ravages of death watch beetle

All new softwood received protective treatment under the direction of Mr. E. H. B. Boulton against recurrence of the beetle trouble. The oak beams and boarding forming the ceiling were twice varnished.

The collaboration of the Ancient Monuments Department of the Ministry of Works and the help of the District Surveyor were of great value throughout the job.

The architects for the work were Messrs. Kenneth Lindy, Joseph Hill and Partners, F. and A.R.I.B.A.

The general contractors were Messrs. C. S. Foster and Sons, of Loughton. The sub-contractors were Redpath Brown and Co., Ltd., steelwork; Ewart, Ltd., copper roofing; and William Mallinson and Sons, Ltd., oak.

MODERN FRENCH ART

Exhibition at the R.A.

THE Royal Academy is holding an exhibition of modern French Art which is the most revolutionary ever staged by this historic body, and has been brought together at the instance of Sir Gerald Kelly, P.R.A., who is desirous that art students should have the opportunity of seeing original paintings of well known artists of the various modern schools, working during the period 1900-1950. The exhibition is a small one; no more than some 160 pictures are to be seen, the work of over 80 artists. Included are such well known names as Chagall, Braque, Rousseau, Vuillard, Matisse, Bonnard, Derain, Modigliani and others. Can it be that art will out? Before turning their attention to painting, the vocations of some of the artists were varied and included are a roadman and a farm labourer.

Any description of some of the works would be unintelligible without their being seen. To explain their motive or what they intend to convey would need the presence of the artist himself. The intention of others is quite self-explanatory; they express their meaning. Colour is rich in some and violent in others. Picasso is unrepresented for political reasons. To quote Sir Gerald Kelly: "We shall be rewarded if our galleries are full, day after day, of art students from all over the country, and we sincerely hope that help will be given to them to make this pilgrimage. We do not want a *succes de scandale;* we are not pandering to snobbism; we are showing with meticulous fairness pictures carefully chosen by the French themselves as choice examples of the work of painters who have become famous through the whole painting world." No doubt after an influx of students, the "fluence" will, in the near future, be evident. Will it be academical? The attendance will be large and many more curious than art loving will be there, but keen discussions or dissections will take place and these will undoubtedly do good.

The exhibition is open daily from 10 a.m. to 7 p.m. (Sundays 2 to 6), closing on March 7.

W.J.W.

The completed bridge

PRESTRESSED CONCRETE FOOTBRIDGE AT OXFORD

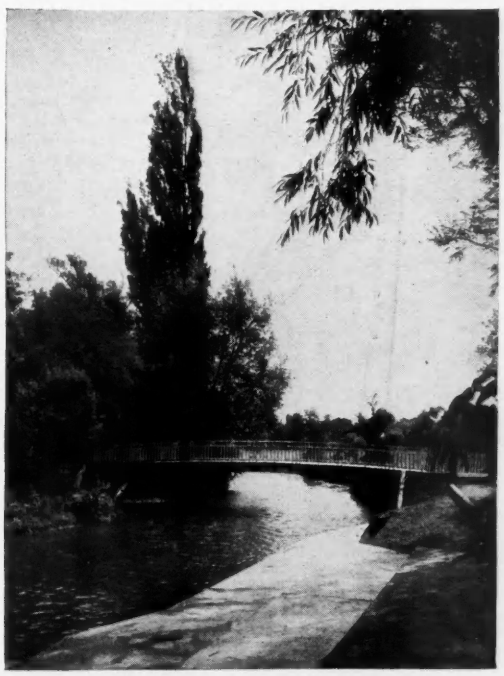
DESIGNED BY R. TRAVERS MORGAN AND PARTNERS, CONSULTANT ENGINEERS

THIS is believed to be the first prestressed fixed-arch bridge constructed in this country, or indeed, anywhere else. It crosses the Cherwell, or rather one of its many side streams, at Oxford, and takes the place of an old wooden footbridge on the walk running through that long attenuation of the University Park " Mesopotamia." The design was selected by a committee representing the Chancellor, masters and scholars of the University of Oxford from a number of preliminary schemes that were prepared by the consultants, including one in timber like its predecessor. Basically it consists of a pair of twin-arch post-tensioned ribs coupled at their extremities and at mid-span by cross beams, all of which were cast *in situ*, and a decking of precast and pre-tensioned plank elements that span transversely from rib to rib. To drain the decking surface, these plank units are spaced about ½ in. apart, as the slatted decking of the old timber bridge was before. The clear span of the bridge is 45 ft., the width between the balustrading 8 ft., the clear height above mean water level 5 ft. 9 in., and the structural depth at mid-span only 9 in. In shape, the ribs curve on their extrados to a large radius arc which gives the bridge a 12 in. rise to its centre. On the intrados, the shape was determined first " by eye," and then by adjustment to the stresses involved.

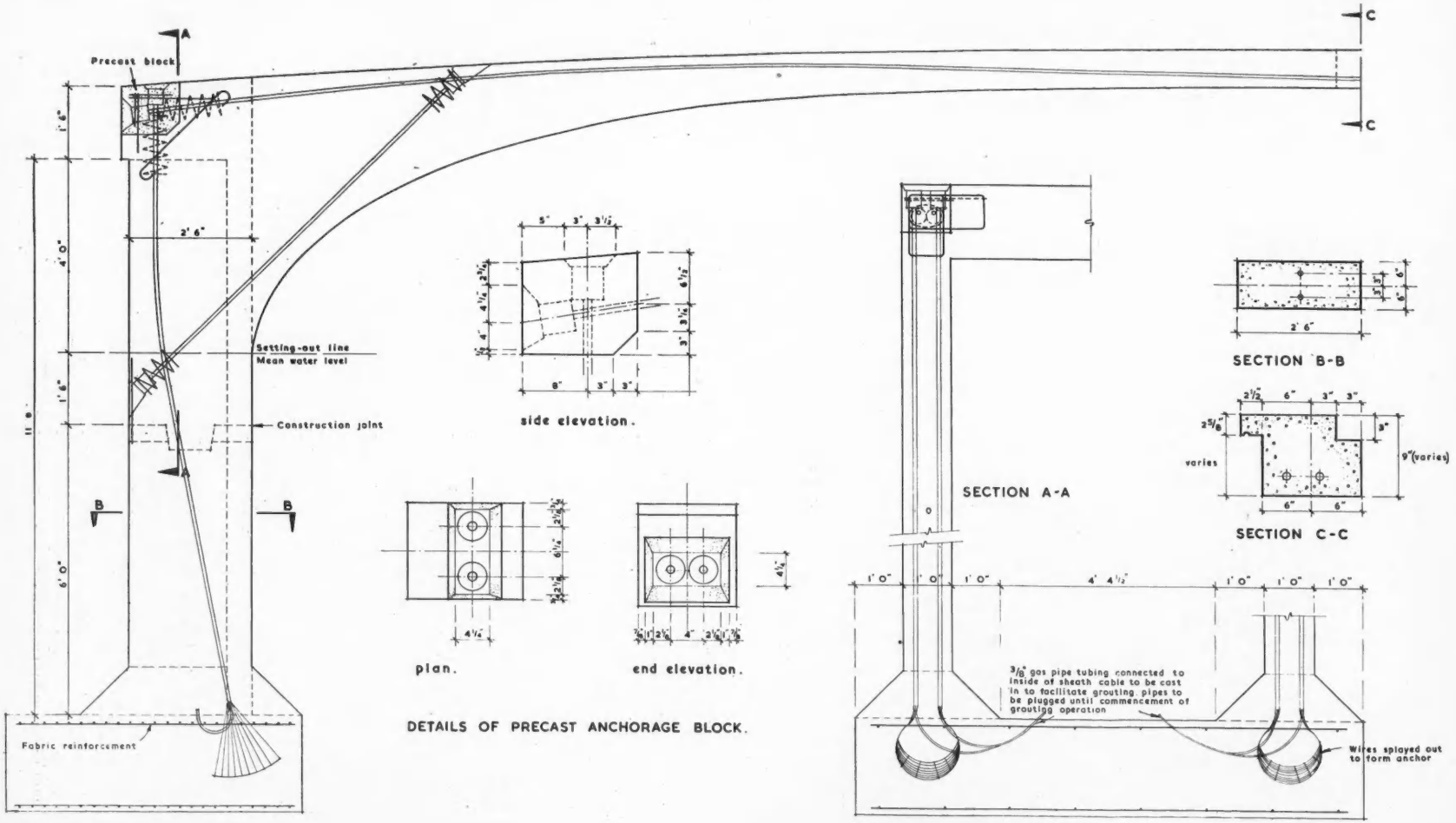
The formwork, which was made of timber with a lining of hardboard to the visible concrete faces, was made in sections at the contractors' works, and assembled on the site. Prestressing for the ribs was on the Freyssinet system and for this the cables were made on the site.

The balustrading is in aluminium alloy and, except for the sharply curving end sweeps to the handrail and the ring inserts which were both cast, is built up entirely of extruded sections.

Taylor Woodrow Construction, Ltd., of Southall, Middlesex, were the contractors.

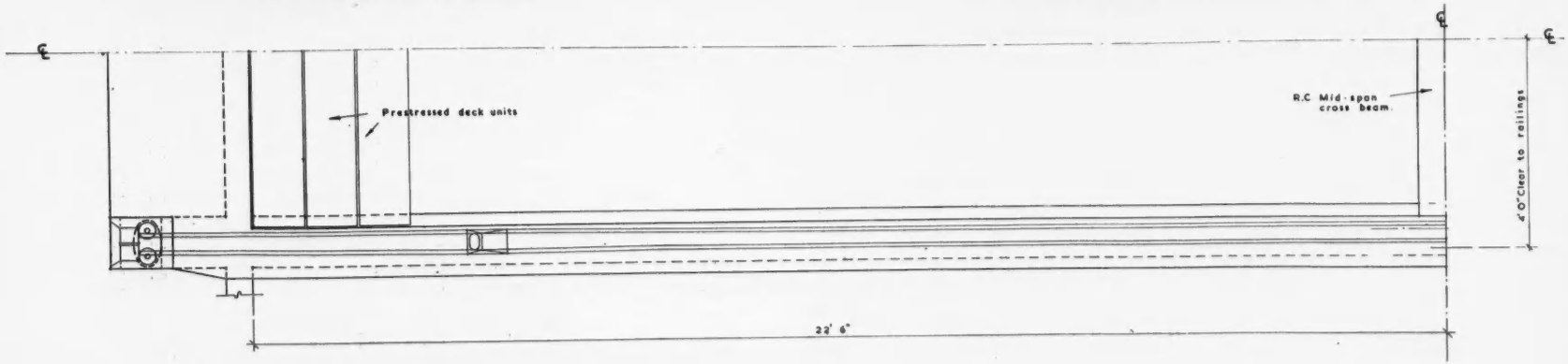


Upstream view of completed bridge


A
Precast block
C
C
1' 6"
4' 0"
1' 6"
6' 0"
11' 0"
2' 6"
Setting-out line
Mean water level
Construction joint
B
B
Fabric reinforcement
ELEVATION OF MAIN ARCH
side elevation.
plan.
end elevation.
DETAILS OF PRECAST ANCHORAGE BLOCK.
SECTION A-A
SECTION B-B
SECTION C-C
varies
9"(varies)
1' 0"
4' 4½"
3/8" gas pipe tubing connected to inside of sheath cable to be cast in to facilitate grouting pipes to be plugged until commencement of grouting operation
Wires splayed out to form anchor
END ELEVATION OF BASE.

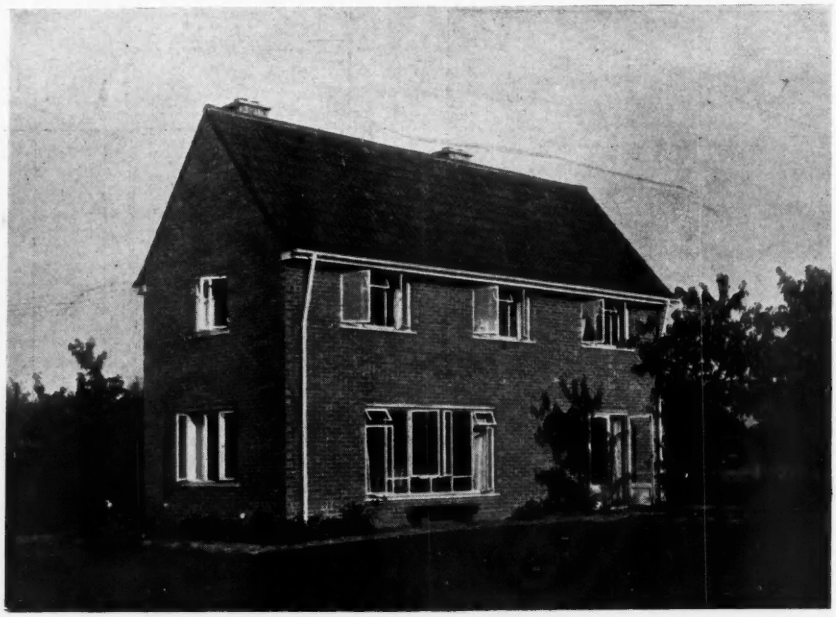
Prestressing operation in practice

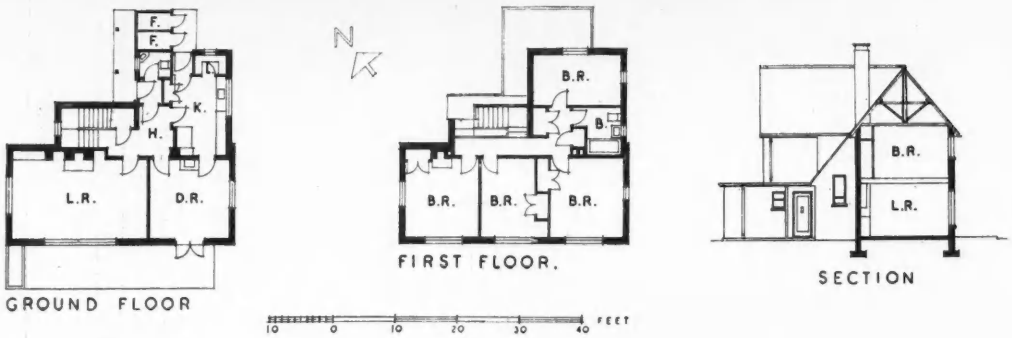
The bridge under construction



PLAN OF MAIN BEAM.

PRESTRESSED CONCRETE FOOTBRIDGE AT OXFORD





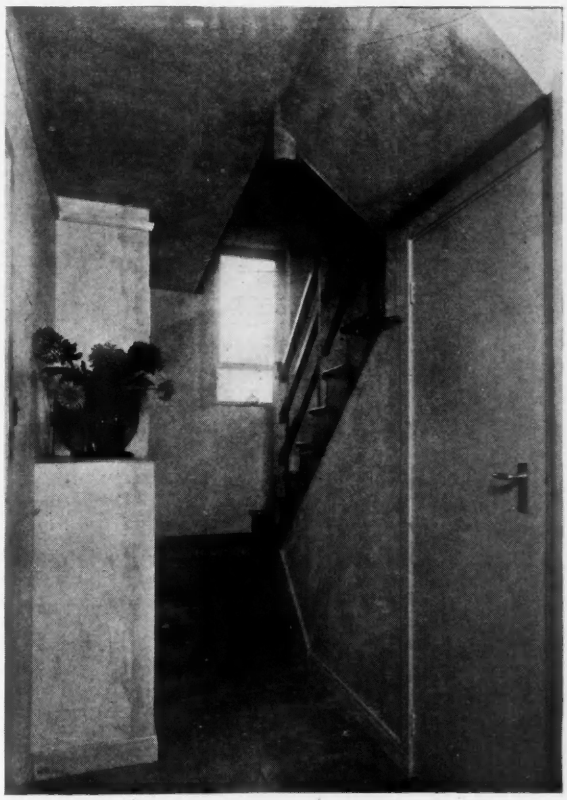
HOUSE IN GOAT HALL LANE, CHELMSFORD

ROFF MARSH, F.R.I.B.A., A.M.T.P.I., ARCHITECT

THE site rises steeply from the road, and the house has been set well back to obtain privacy and to avoid the cost of building on the slope. An existing avenue of cherry trees has also influenced siting.

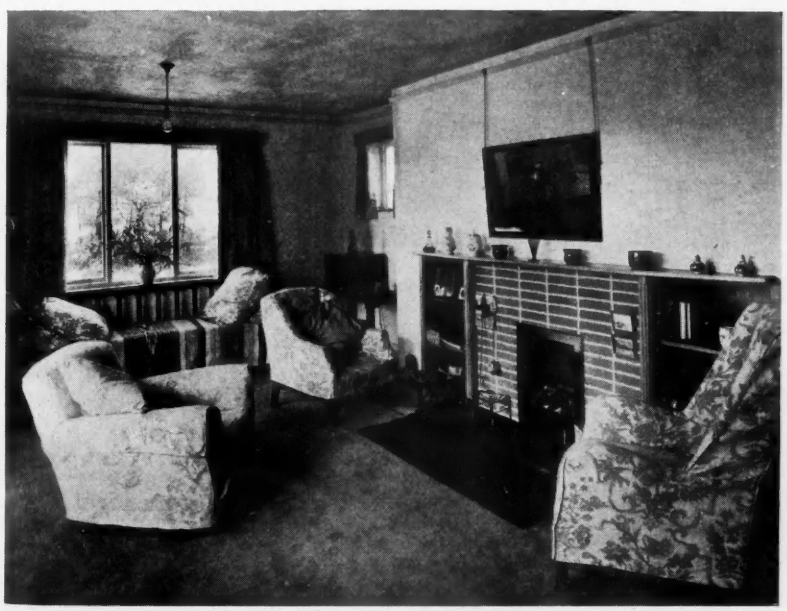
Layout: The clients asked that the house should be planned with four medium-sized bedrooms, two slightly larger than the others, one of these to have east aspect and the other west aspect. On the ground floor there is a large living-room with a long window facing south. The room is heated by a "Camelon" convector fire arranged with a hot-air duct to the hall. The dining-room has double doors on the south side giving access to the garden, and is heated by a slow-combustion stove. The kitchen faces east and is fitted with an "Aga" cooker which also heats the water. The hot-water cylinder is fixed immediately above the cooker, and special attention has been paid to keeping the plumbing runs as short as possible. A power point was left for an immersion heater adjacent to the cylinder, but the installation of this has not been found necessary.

Construction: The external walls are in 11-in. cavity brickwork, the outer skin being in rustic flettons built in cement/lime/mortar 1 : 1 : 6 with bagged joint. It is intended to paint the exterior in Snowcem at a later date. The internal partitions are in hollow tile. The ground floor is solid, finished in Seraya wood block flooring. The hall and kitchen are finished in buff concrete tiles. The window boards are in similar tiles. The staircase is in Parana and Columbian pine, and has a polished finish in natural colour. The internal walls are finished in lime plaster and have been left undecorated until they are thoroughly dried out. The windows are wood, following the pattern of the E.J.M.A. windows, but in stronger sections. The roof is covered with dark red Reynardo sand-faced tiles. The garden layout was designed by Mr. Percy S. Cane.



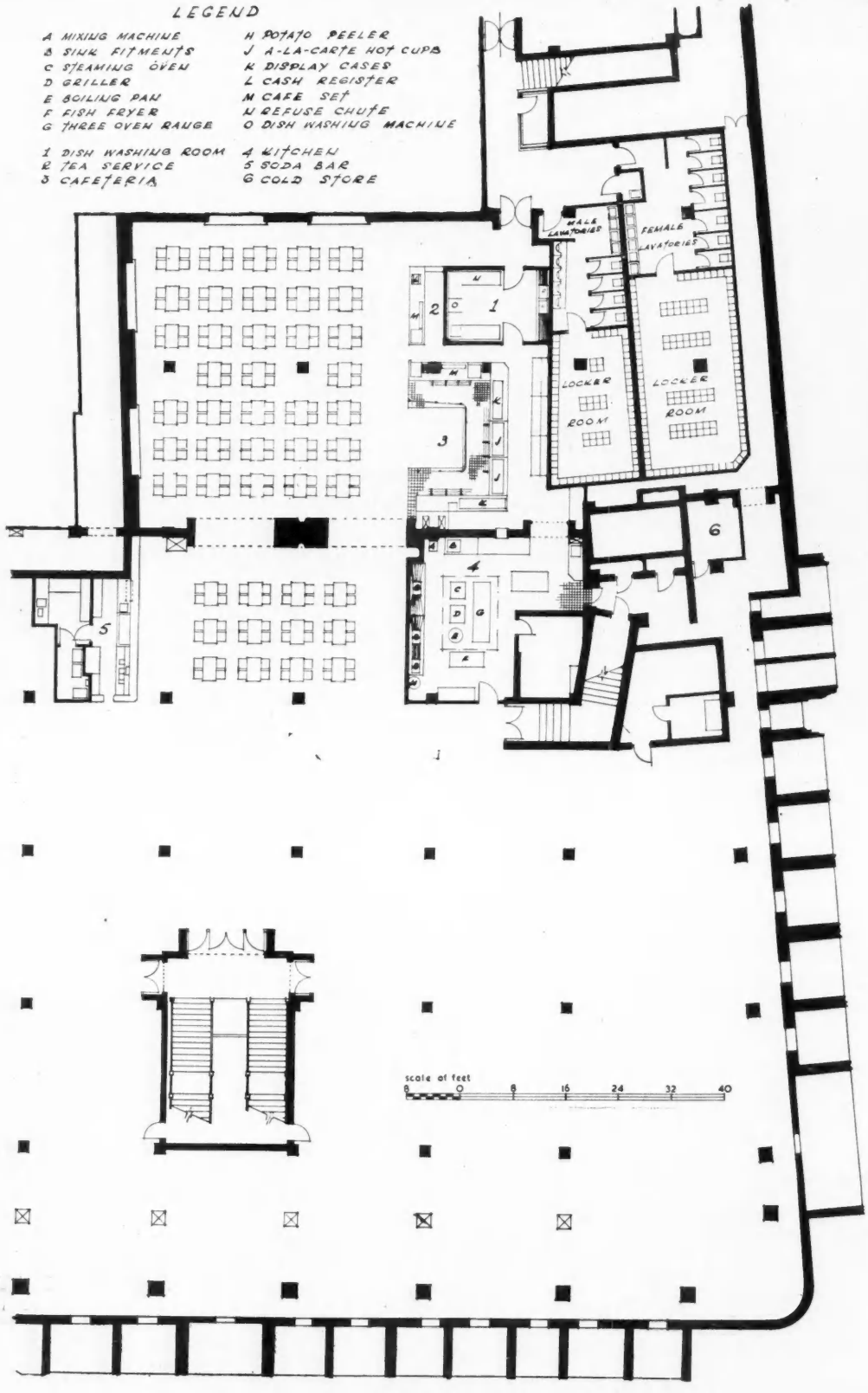
The hall and staircase

The builders were Messrs. Henry Potter (Wm. Sharp), Ltd., and suppliers and sub-contractors were: Bricks, Hawkes Bros., Chelmsford; electrical installation, Christy Bros. (Chelmsford), Ltd.; ironmongery, Yannedis and Co., Ltd.; paint, Glasso Paint Products, Ltd., and Indestructible Paint Co.; roof tiles, Colthurst Symons and Co., Ltd.; stoves, Camelon Iron Co., Ltd.; wood block floors, Hollis Bros.; windows, Rippers, Ltd.; and staircase, G. J. Hawkes and Sons, Ltd.



Left: **Living-room**

A HOUSE AT CHELMSFORD



SELF-SERVICE RESTAURANT, OXFORD STREET, W.: Plan

View of restaurant from servery. *Below:* **View looking towards kitchen**

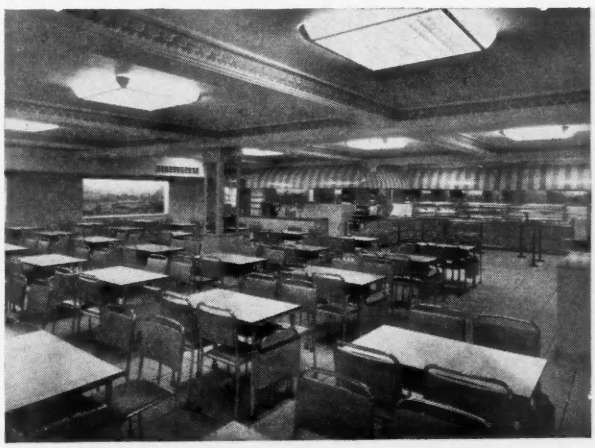
SELF-SERVICE RESTAURANT, OXFORD STREET, W

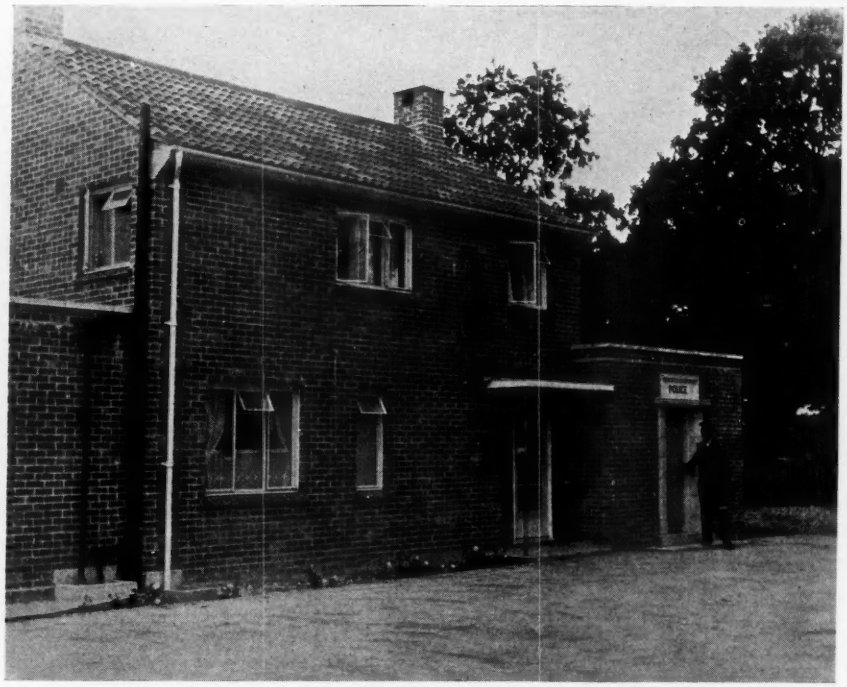
C. W. NEIL, A.R.I.B.A., ARCHITECT

MESSRS. THOMAS WALLIS AND COMPANY'S stores at Holborn, well known to scores of shoppers in London and the provinces, were entirely destroyed during the London blitz in April, 1941. Within a short period, however, it re-opened in two shops at Mount Royal, later absorbing other shops and vacant premises adjoining. Confinement to ground floor and basement presented many problems, but these have been overcome in a manner which displays considerable ingenuity and resourcefulness.

The self-service restaurant illustrated here had, for reasons of space and access to drainage, to be sited in the back portion of the basement floor and thus occupied a section of the building in which the vertical cut-off and fire-resisting shutters were located and provided the problem of designing the restaurant to serve 800 people an hour with this obstacle almost in the centre of the restaurant seating space. False ceilings had to be constructed at different heights to allow for a 3 ft. difference and level; these conceal the ventilating trunks. Where skin walls proved necessary, opportunity was taken to form large recessed lighted murals depicting scenes of London. Walls are in cream scalloped with pale pink and green. Pink and green canopies over the self-contained soda fountain and service counters together with fluorescent lighting accentuate the brightness of effect. The tables, in bird's eye maple, are fitted with racks for handbags and parcels. Air conditioning is thermostatically controlled to ensure even temperature throughout the year. The main cafeteria self-service counter is three-sided, so that customers walk a minimum distance, and allows a maximum serving area to the service staff. Messrs. J. Stinton Jones and Partners were the consulting engineers, Mr. A. W. Jarvis the electrical engineering consultant, Mr. R. T. Dadson the quantity surveyor, and Messrs. Holland & Hannen and Cubitts, Ltd., the main contractors.

Sub-contractors were : G. J. Green and Sons, Ltd., plasterers, decorations ; Diespeker, Ltd., terrazzo floors ; John M. Newton and Son, Ltd., vitrolite glass mirrors ; Engineering Services Installation, Ltd., plumbing, electricians' work and ventilation ; Haskins, shutters ; Gardiner and Gulland, caterers' equipment and self-service counter ; Lightfoot, refrigeration ; Automatic Sprinkler, Ltd., sprinklers ; and Dare Inglis, tables and chairs.





Front elevation of house and office

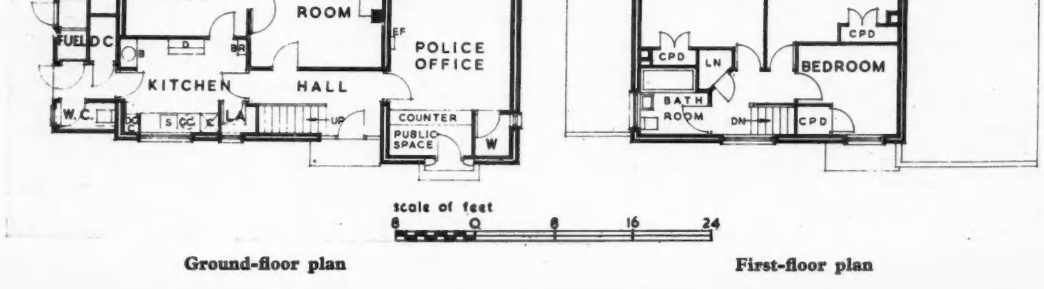
POLICE HOUSE AND OFFICE FIVE OAK GREEN, KENT

SIDNEY H. LOWETH, COUNTY ARCHITECT

THIS building, situated on a corner site of the Tonbridge Rural District Council Housing Estate at Sychem-lane, Five Oak Green, is one of the standardised types of houses being erected under the police housing programme for the Kent Police Authority. It is planned according to the aspect, but having a standard layout, it facilitates the transfer of personnel by obviating the unnecessary expense to the tenants in fitting other floor coverings, curtains, etc.

The buildings comprise living accommodation for a police constable, an office adjoining the house, which allows the police to conduct official business in private, and a garage. Car parking facilities are provided. The house comprises living-room, dining-room, hall, kitchen fitted with E.J.M.A. units, domestic hot water boiler, gas copper and cooker. The solid ground floor is covered with Marley floor tiles. Outbuildings provide ample fuel storage, a store, w.c. and drying cupboard fitted with a hot coil for drying uniforms. The external walls are faced with Pluckley multi-coloured sand-faced wire-cut bricks and the hipped roof is covered with Majors " Centurion " red tiles.

The contractor was Mr. H. Lawrance, Five Oak Green, the electrical contractor, Mr. C. Sexton, Tonbridge, and tarpaving contractor, W. H. Bensted and Son (Contractors), Ltd., Maidstone.



Ground-floor plan **First-floor plan**

COMPETITION NEWS

"The Builder" Low-Cost Housing Competition

THREE HUNDRED AND TWENTY designs have been submitted in the competition organised by *The Builder* for a terrace house to cost not more than £1,000. Four hundred and sixty applications for Conditions were received. The competition closed on January 17.

The designs will be placed on exhibition at the Conference Hall, County Hall, Westminster Bridge, S.E.1 (by kind permission of the London County Council) from Monday to Saturday, February 19-24 next.

The independent quantity surveyor appointed by the promoters to check the estimates of competitors is Mr. Edward H. Palmer, F.R.I.C.S. (of Messrs. Gardiner and Theobald, chartered quantity surveyors).

The assessors are Sir Lancelot Keay, K.B.E., M.Arch., P-P.R.I.B.A., Mr. Arthur Kenyon, C.B.E., F.R.I.B.A., M.T.P.I., and Sir Stephen Tallents, K.C.M.G., C.B., C.B.E., Hon.A.R.I.B.A.

Festival Hall, Heswall, Wirral

CONDITIONS of the competition organised by the Wirral U.D.C. for a festival hall at Heswall (and announced in our issue for January 12) are now available from the Clerk of the Council, Mr. W. F. Roberts, Council Offices, Heswall, Wirral, Cheshire. The assessor is Mr. P. Garland Fairhurst, M.A., F.R.I.B.A., and premiums of £500, £350 and £250 are offered. Questions must be sent in by February 6 next, and designs are called for by April 28 next.

THE SITE.—Access to the site is to be from Telegraph-road and the main entrance should be on this side of the building. It is intended that an additional entrance to the site shall be provided to Mount-avenue.

ACCOMMODATION.—The principal requirements are a Main Hall to seat 500 people, 100 of whom must be placed in a gallery. The Hall will be used for multiple purposes and therefore the floor must not be sloping. Stage 25 ft. deep. No flies required. Separate access from outside to rear of stage enabling transfer of scenery direct from vehicles. Two dressing-rooms 300 sq. ft., with lavatory accommodation for each sex. Kitchenette 250 sq. ft. for purpose of serving light refreshments in the Main Hall, with separate access from outside. Provision for projection room for occasional use. Three club or lecture rooms, each 300 sq. ft., capable of being used as one if required for an exhibition room. Car park (100 cars) and bicycle accommodation.

Owing to the present economic situation, it is not certain how much of the building can be proceeded with in the first instance and it may be necessary to build in sections. The scheme should, therefore, allow for the three club rooms and some substantial part of the Hall (e.g., permanent stage or balcony) to be omitted in the first section of the contract. If this reduced scheme is adopted, some section of the building should be capable of use as a club or exhibition room in the first section when the Hall is not in full use.

COMPETITIONS OPEN

SEASIDE HOTEL, CRAIGAVAD, CO. DOWN.—Promoted by the Festival of Britain (Northern Ireland Committee). Premiums: £200, £100 and £50. Assessor: Mr. Desmond Fitzgerald, B.Arch., A.R.I.B.A., F.R.I.A.I. Conditions from: The Hon. Secretary, Royal Society of Ulster Architects, 7, College-square North, Belfast. Dep. £1 1s. Last day for questions: December 1, 1950. Closing date for designs: March 31, 1951. *December* 22, 1950.

RECREATION CENTRE, ENNISKILLEN.—Promoted by the Festival of Britain (Northern Ireland Committee). Premiums: £100, £50 and £25. Assessor: Mr. Desmond Fitzgerald, B.Arch., A.R.I.B.A., F.R.I.A.I. Conditions from: The Hon. Secretary, Royal Society of Ulster Architects, 7, College-square North, Belfast. Dep. £1 1s. Last day for questions: December 1, 1950. Closing date for designs: March 31, 1951. *December* 22, 1950.

FESTIVAL HALL, HESWALL, WIRRAL. Promoted by Wirral U.D.C. Premiums: £500, £350 and £250. Assessors: Mr. P. Garland Fairhurst, M.A., F.R.I.B.A. Conditions from: Mr. W. F. Roberts, Clerk of the Council, Council Offices, Heswall, Wirral, Cheshire. Dep. £2 2s. Last day for questions: February 8 next. Closing date for designs: April 28, 1951. *January* 12 *and* 26, 1951.

COVENTRY CATHEDRAL. Promoted by Coventry Cathedral Reconstruction Committee. Premiums: £2,000, £1,500 and £1,000. Assessors: Sir Percy Thomas, P-P.R.I.B.A.; Mr. Edward Maufe, R.A.; and Mr. Howard Robertson, A.R.A. Conditions from: The Secretary, Coventry Cathedral Reconstruction Committee, 22, Bayley-lane, Coventry. Dep. £2 2s. Last day for questions: December 13, 1950. Closing date for designs: July 2, 1951. *November* 3, 1950.

Dates in italics at the end of paragraph refer to issues of "The Builder" in which details of the competitions appeared.

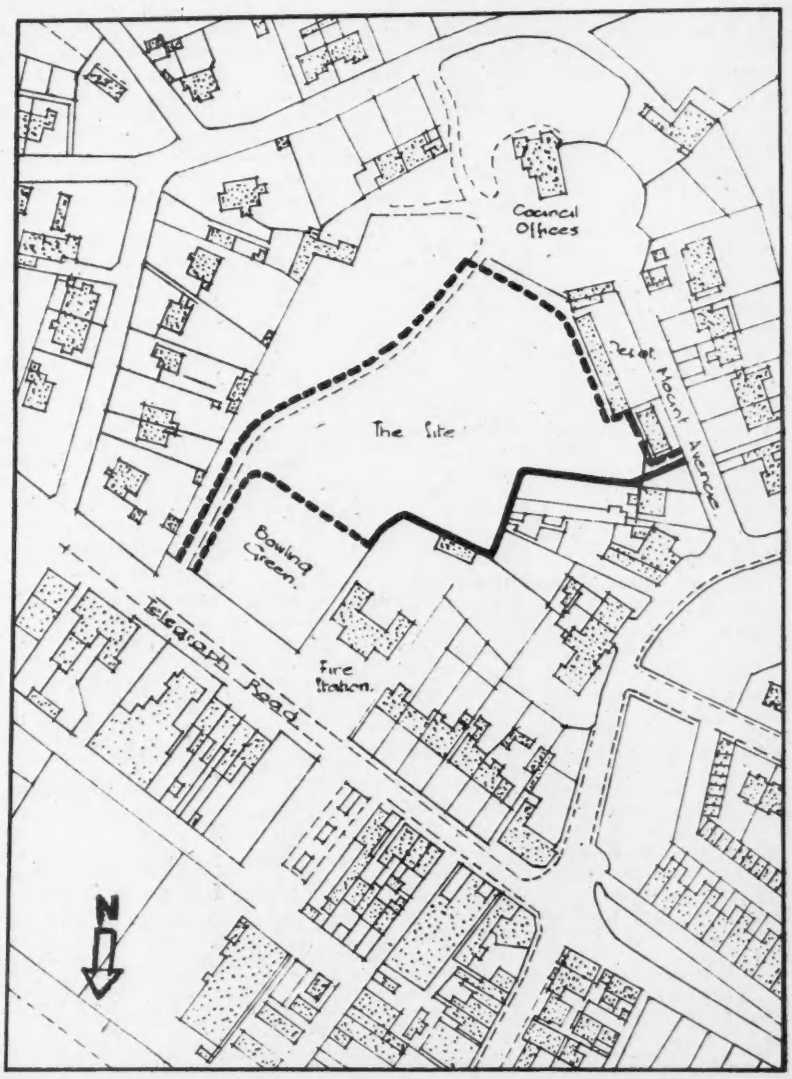
CORRESPONDENCE

"What is Architecture?"

TO THE EDITOR OF *The Builder*.

SIR,—Your remarks under this head in *The Builder* for December 22, 1950, have just been brought to my notice. You criticise my definition of Architecture: "building designed and built for a specific purpose" on the ground that this would cover a corrugated iron shed. But, provided only that the shed had been individually designed for its purpose, this is exactly what an adequate definition must needs cover. Otherwise, we can say: Cast iron and glass are not legitimate; the Crystal Palace was no work of architecture, and so on. Personal likes and dislikes must be excluded.

Regarding copies; hard cases make bad law. While one may agree that a replica of a building totally destroyed by fire falls within the general and popular meaning of Architecture, it is none the less a *copy*. It is a copy of a work of architecture, not the work itself; and in view of the amount of spurious imitation of past buildings as



COMPETITION FOR FESTIVAL HALL, HESWALL: Site plan

well as past styles that have been put up in the last century, surely this distinction is a very necessary one?

Another question is asked: are there any buildings that comply with my definition (as non-architecture) of "the products of a rigid tradition which permits no departure from precedent." The answer is, Yes; very many in so-called primitive communities, and also in this country in the form of mediæval cottages and small houses. These followed a rigid tradition of type, size, material, and construction, down to the smallest detail. The infinite modulations wrought by time have introduced variations, but the works of one particular regional tradition, as regards any one type, are spiritually standardised products. They are admirable craftsmanship, lovely building, but not architecture.

JOHN H. HARVEY.

Half Moon Cottage,
Little Bookham, Surrey.

Streamlining Quantities

TO THE EDITOR OF *The Builder*

SIR,—I have read with interest the articles by Mr. S. W. Hookway on the above subject published in your journal for January 5 and 12.

Doubtless some of the changes in method suggested by him might lead to a saving in time in the preparation of bills of quantities, but whether they would have a similar effect on the work of the estimator is a matter of conjecture. I view with considerable trepidation any major diversion from the Standard Method, and would certainly feel that any extension of the use of the Code of Measurement would be a backward step in quantity surveying.

As an estimator of many years' standing, I feel that the real trouble today lies not with Standard Method but with quantity surveyors. The average bill produced in recent years leaves no doubt as to the lack of experienced staff from which even the most respected firms in the profession are suffering. To quote an example, a short time ago I priced a bill of a little over 100 pages, many of the items in which were, to say the least, "ambiguous," and 48 hours before the tender was due at its destination I received a list of corrections which covered four and a half pages of foolscap.

C. STEWART FINN.

Dartington, Totnes.

Housing Without Architects?

TO THE EDITOR OF *The Builder*.

SIR,—In his third article on "Building Industry Organisation" in your last issue, your Correspondent gave as one of the advantages of pre-war private enterprise house building the fact that there was no architect to consult. Remembering the hundreds of square miles of montonous and architecturally deplorable suburban development that the private speculator has bequeathed to us, many will be of the opinion that the absence of an architect was in fact a disadvantage. Whatever the deficiencies of post-war local authority housing in point of quantity, it shows immense improvement in layout and design, qualities which are entirely due to the employment of architects.

If we are to revert to private house building on anything like the pre-war scale it is greatly to be hoped that there may be no return to its low standard of design. Some reassurance on this point seems to be necessary from the organised house builders.

H. J.

The Q.S. and Local and Nationalised Government Services

TO THE EDITOR OF *The Builder*.

SIR,—I noted with interest Mr. C. R. Vinycombe's observations (December 29 issue) regarding the Quantity Surveyor having established himself as a necessary component in that part of the machinery of local and central government which ensures the smooth running of building organisation and administration.

It is common knowledge that Q.S. establishments, in Government departments, are generally created at the request of the Principal Architect. Consequently, I feel he now recognises the importance, in fact the necessity, for seeking the co-operation of the highly specialised Q.S., and is only too pleased to entrust to him the entire responsibility for arranging the control of all financial matters (relating in many instances to projects involving millions of pounds) from the early stage of the estimate to the final settlement of the account.

In these modern times, with the restrictions upon control of building expenditure, and constant price fluctuations, etc., the architect relies almost entirely upon the Q.S. to advise him upon the mode of his ultimate project; in point of fact, he largely relies in the production of the most suitable type of building on the advice of the Q.S.

This tendency to transfer the onus of matters relating to contractual and financial negotiation to the Q.S. indicates the importance of the latter's professional status and now warrants equal recognition for his services.

The Scale of Professional Fees agreed by the architectural and surveying professions for use in private practice is an indication that an equal amount of monetary reward is envisaged by the respective professional bodies. This quite obviously does not apply in the establishments arranged by the Government services. In order to achieve this object, I appeal to fellow Principal Q.S.s seriously to consider Mr. Vinycombe's proposal to establish a representative body, so that this object of equality for the Q.S. may ultimately be achieved.

Doncaster. J. A. DENTON.

John Claudius Loudon

TO THE EDITOR OF *The Builder*.

SIR,—I am writing a biography of John Claudius Loudon (1783-1843), the landscape gardener and author of many works on gardening and architecture. I should be glad to hear from any reader who has or knows of any letters written by Loudon or his wife, or who knows the present whereabouts of the journal that he kept from about 1800 until the end of his life, if it still exists.

JOHN GLOAG.

3, The Mall,
East Sheen, S.W.14.

Draft Taking-off: Has a Builder Right of Inspection?

TO THE EDITOR OF *The Builder*.

SIR,—Should the main contractor be allowed to inspect the original "draft taking-off" prepared by the professional surveyor when the work is being remeasured?

The opinion of professional surveyors and contractors' surveyors would be welcome on this point.

NORTH-WEST BUILDER.

BOOKS

AN INTRODUCTION TO RAILWAY ARCHITECTURE. By Christian Barman. (Art and Technics.) Pp. 104. Price 15s. net.

A BOOK on this subject has long been overdue, and Mr. Barman is the obvious person to write it. His official position enables him to deal with the subject authoritatively and to obtain all necessary material, while his skill as an author and journalist ensures that his information will be presented to the reader in an acceptable and attractive form.

The text is comparatively brief, but is supplemented by illuminating and often diverting captions to the 60 pages of assorted illustrations. These latter include many specially-taken photographs, but a large number are reproduced from old prints and some from architects' drawings of long ago. The quality of reproduction is very high. "More than any other buildings of whatever kind or type," writes Mr. Barman, "the great and varied collection of buildings erected by the railway companies can help us to understand the architecture of the Victorian age . . . and to give it its proper place among the most exciting achievements of Atlantic man."

He sees the first quarter-century after the birth of the steam railway as "the golden period of railway architecture." The designers of station buildings had three objects in view: to satisfy a functional or engineering problem in covering given spaces economically, to harmonise their structures with landscape or human environment, and to express their confidence in the new form of transport—hence the triumphal portico at Euston and the magnificent porch at Newcastle.

From the rough and simple sheds of 1836, we are taken to Brunel's "serious architectural treatment" at Bath and Bristol in 1841; then to Newcastle, where John Dobson, "greatest of all railway architects" and "a brilliant architectural engineer," built the Central Station in 1845-50. His main technical achievement was the development of wide-span iron roofs.

From 1840 to 1850, "the Italian manner" was favoured for railway stations, especially by Mocatta, Tite, Henry Roberts, and Francis Thompson; but Tite also designed many "Gothic" stations, e.g., Carlisle Citadel. The remarkable portico at Huddersfield (1847) and Scott's St. Pancras are duly described, and, of course, Ruskin is quoted. Matthew Digby Wyatt appears as the designer of Paddington. There is some reference to "rustic" country stations; but, generally speaking, the remainder of the story, from about 1860 onwards, is told by the illustrations, which bring it right up to date and form a most entertaining study in themselves.

M. S. B.

⁂ *Books reviewed in these columns may be obtained on application to the Publisher, "The Builder," 4, Catherine-street, Aldwych, W.C.2. Cash should accompany the order.*

N. Zealand School of Architecture

ITS PROSPECTUS for 1951 has been issued by the School of Architecture, University of N. Zealand, and in it are outlined courses of study available for the degree of Bachelor of Architecture and the diplomas of the College in architecture and urban valuation.

FOUR KING'S MASTERS—2

A Question of Identity

By J. G. NOPPEN, F.S.A.

John of St. Omer

THE name of this man appears in two entries in the Close Roll, which contain all the information we have about him.[23] It is necessary to give both the Latin text and a translation. The first item is dated at Windsor, September 23, 1249, and reads as follows: DE PICTURA WESTMONASTERII. *Rex injungit* (probably *injunxit*) *Magistro Johanni de Sancto Omero quod garderobam camere regis apud Westmonasterium perpingi faciat, sicut pictura illius garderobe inchoatur; et quod faciat unum lectrinum ponendum in novo capitulo Westmonasterii ad similitudinem illius quod est capitulo Sancti Albani, vel decentius et pulcrius, si fieri potecrit; et ad hoc faciendum, colores et maeremium et necessarias liberaciones usque ad adventum regis Lond' ei inveniri faciet. Et custum ad hoc appositum, cum rex illud sciverit reddi faciet. Et mandatum est abbati Westmonasteriensi, Edwardo filio Odonis et Philippo Luvel quod liberaciones et alia necessaria ut supra inveniri faciant.*

TRANSLATION:

"*On painting at Westminster.*—The king has enjoined upon Master John of St. Omer that he have the wardrobe of the king's chamber at Westminster completely painted, just as the painting of that wardrobe is begun; and that he have (made) a lectern to be placed in the new chapter house at Westminster similar to that which is in the chapter house at St. Albans, or better and more beautiful if it can be done; and for doing this, up to the king's arrival in London, he (the king) will cause colours and timber and the necessary liveries to be supplied to him; and when the king knows the cost he will pay it. And the abbot of Westminster, Edward, son of Odo, and Philip Luvel are ordered to have the liveries and necessaries, above mentioned, supplied."

Edward was Chancellor of the Exchequer and a favourite king's clerk; Philip was treasurer. The abbot was Richard Crokesley who, shortly before he was elected abbot, had, as archdeacon, been appointed with Edward, joint treasurer of the new Exchequer which has already been mentioned. It would be as Keepers of the Works that they were to supply the needs of Master John. We come now to the other entry, a writ, dated at Clarendon, December 8, 1249, which reads:

DE DENARIIS LIBERANDIS AD OPERA REGIS: *Mandatum est Edwardo de Westmonasterio* [24] *quod faciat habere magistro Johanni de Sancto Odomero denarios ad operaciones regis que rex ei injunxit faciendas et ad expensas suas; et cum rex sciverit quantum ei liberavit breve suum de Liberate eidem Edwardo inde habere faciet.*

TRANSLATION:

"*On money to be delivered for the king's works*: It is required of Edward of Westminster that he arrange for Master John of St. Omer to have money for the works that the king has enjoined upon him to be done, and for his expenses; and when the king knows how much he has delivered to him he will cause the same Edward to have his writ of Liberate for it."

These are enrolments of private documents of a very concise nature, and details are omitted which would now be of much interest. The scribe wrote not for the information of a curious posterity, but for his contemporaries, and all would be clear enough to them. We may, however, accept without question, the truth of what is plain and unambiguous; but must be cautious in making deductions.

In the first place, we may reject the opinion that John *de Sancto Omero* (of 1249) is identical with either John *de Flandria* (who appears in 1251) or John *de Sancto Albano* (first mentioned in 1257). It is most unlikely that a man would change his place-name; and that he would change it from that of his city to that of his continental county, and then from the latter to the name of an English city is incredible. The change of a patronymic to a place name, as in the case of Edward *de Westmonasterio*, is another matter.

We may now consider the first of the two entries. At the beginning, *injunxit* is undoubtedly the correct reading, as the king is repeating orders (recently given to Master John of St. Omer) for the benefit of the Abbot of Westminster, Edward and Philip, who also have a part to play in the business concerned. There are many such entries in the rolls, and the person who occupies the place of John of St. Omer may be a clerk, a keeper of works, a sheriff, a constable, or, indeed, any trusted servant of the king. One order to get some painting finished was directed to the treasurer and chamberlains. [25] More to the point is an order to Edward of Westminster to supply stone for the Friars Minors' dormitory combined with a mandate to Robert of Beverley to choose the stone and deliver it. [26] Such entries often made no reference to him who was to do the work.

Returning to the text, we find that the king's promise to supply materials is followed by his undertaking to pay for them; but there is no mention of the supplier. However, we next read an order to the Abbot of Westminster, Edward and Philip, to supply the materials, and, as no undertaking to pay them is added, as it usually is in such cases, we feel that the previous undertaking is out of its place, and should have been here. When we make the change, the whole entry reads normally, and in harmony with the December writ, whereby Edward is told to let John of St. Omer have money for which the king, when he knows the amount, will send Edward his writ of *Liberate*.

We now come to the question of John of St. Omer's calling. Was he a painter? It is doubtful, seeing that his orders are not to paint, but to get some painting done. He is further ordered to make a lectern which is to be of wood, and so it is a carpenter's job. Now the late W. R. Lethaby, having in mind Master Walter's work on the coronation chair, suggested that the admired lectern at St. Albans may have been the work of Master Walter of Colchester, the painter-goldsmith who wrought the shrine of St. Thomas. This is a reasonable conjecture; but it does not prove that John of St. Omer was a painter. The nature of the evidence points not to John having been a painter-goldsmith, but rather to his having been a clerk. The fact that we read *faciat lectrinum* does not prevent our suspecting that John's task was to cause the lectern to be made, and not to make it with his own hands.

We know that John *apud Sanctum Albanum* was working on the lectern; but we cannot say that he is identical with John of St. Omer, seeing that not once in 27 weeks is he so described.

Nor can we identify the former with John *de Flandria, sculptor regis,* who was staying for a time at St. Albans in 1251. As he was a sculptor, he is likely to have been a metal worker, as was John of St. Albans, who was styled *sculptor imaginum regis.* The whole evidence of the documents of the period makes clear that the king's images can have been no others than those of gold and silver which were made, some to adorn the shrine, and some for other purposes.

The accounts indicate that John *apud Sanctum Albanum* was a carpenter, and a member of the body of carpenters then working at Westminster. The wording of the account, as far as the carpenters are concerned, varies but slightly. In some works we read "32 carpenters with John at St. Albans," which appears to mean that 32 carpenters are at Westminster and one (John) at St. Albans. The alternative reading would be that there were 32 carpenters at St. Albans with John, which could hardly have been the case. Nevertheless, the word "with" (*cum* in the original) clearly links John with the carpenters, as no other purpose can be given to it. After the carpenters, the painters are mentioned, usually *Peter pictor;* but there is no reason to connect either Peter, or the unnamed painters with John. It just happens that they follow him in the account which keeps the same order week by week. Had John been a painter he would have been so designated, as Peter was; but the way he is shown would be enough to make plain what he was to those who handled the account. Finally, the entry for the purchase of timber confirms that the lectern was to be of wood. I conclude that John *apud Sanctum Albanum* was a carpenter, and not to be identified with any of the others whom we are discussing.

What, then, was John of St. Omer? It seems impossible to decide with any confidence that he was a painter. We may wonder what happened between December, 1249, when we last hear of John of St. Omer, and the spring of 1253, when we first hear of the lectern in the making. This was very probably the beginning, as the timber, bought for 4s. 4d. (a considerable sum in 1253), would have been enough for the job. Before this, the only trace of a clue is the fact that Master John *de Flandria* stayed for a time at St. Albans, and, as king's sculptor, was granted a robe. It is tempting to say, "Here is John of St. Omer under another name," remarking when we come to John *apud Sanctum Albanum,* "Here he is again without a surname," and when we reach John *de Sancto Albano,* "and here he is with still another name"; but it is not credible. Such a series of name-changes can never hope to win general acceptance. It seems certain that sculptors made images of metal, and it is possible that John *de Flandria* was working on a metal image; but we do not know, and, unless further evidence is found, we never shall know. There were several masters, named John, who could have made a wooden lectern: Master John (no surname)

[23] C.R. 33 Henry III, pp. 203 and 245.
[24] This is the same man as Edward, son of Odo.
[25] Close Roll 48 Henry III.
[26] Close Roll 47 Henry III.

was king's carpenter at Clarendon; master John *de Brekhan* was the same at Guildford, and John *de Herting* at Dover.

Only the omission of the word *fieri* from the order to John of St. Omer for the lectern, prevents our insisting that he was a clerk. Nevertheless, such is what I believe he was, and, as we hear no more of him, it is possible that he failed to get the work of making the lectern put promptly in hand. That is as much as can be said unless and until further evidence is forthcoming.

[*Concluded. Previous articles appeared in our issues for January 5, 12 and 19.*—ED.]

OBITUARY

C. L. Hartwell, R.A.

THE DEATH has recently been announced of Mr. Charles Leonard Hartwell, R.A., at the age of 72. He was a typical academic sculptor, basing himself on the tradition of the Italian Renaissance in his formal ideas. He had a wide range of subjects; imaginative compositions, portrait statues and busts, and animals. Among his principal works are the Newcastle-on-Tyne War Memorial, the Sussex Regional Memorial, memorial statues of the Archbishop of Capetown and of Sir Frank Swettenham, in the Malay Straits, and a marble bust of the Prince of Wales (now Duke of Windsor).

L. W. Barnard, F.R.I.B.A.

THE DEATH of Mr. L. W. Barnard, F.R.I.B.A., occurred at Cheltenham on January 18. He was 80. Mr. Barnard designed the Cathedral of St. John, Umtata, South Africa, in 1905, and also a number of churches, including those of St. John, Wrexham, and Oystermouth Parish Church. He designed the school chapels at Oakleigh Hall, Cirencester; the Dean Close School, Cheltenham; several schools in South Africa; Cheltenham (Swindon-road) Council School; Wrexham Church House; Connah's Quay Church House; war memorials for Cheltenham College, the County of Hereford, Retford and Prestatyn; the British Seamen's Hospital, Marseilles; and a large number of houses, mainly in Gloucestershire.

Herbert T. Buckland, F.R.I.B.A.

WE REGRET to record the death at the age of 81, of Mr. Herbert T. Buckland, F.R.I.B.A., of Birmingham. Among buildings designed by Mr. Buckland were the George Dixon Secondary School (with E. Haywood-Farmer); St. Hugh's College, Oxford; recent additions to Newnham College, Cambridge (with Wm. Haywood); and Nobel House, Buckingham Gate.

Mr. Buckland began his architectural education by being articled to Henry Clere, of Birmingham, and afterwards with Bateman and Bateman, of Birmingham, and he also studied at the Birmingham School of Art. He won a number of competitions, including those for the Women's Hall of Residence for University Students, Birmingham; the High School for Girls, Barnsley; South Moor Cottage Hospital, and the Royal Naval School, Holbrook.

F. H. Floyd, F.R.I.B.A.

THE DEATH has been announced at his home, near Newbury, of Mr. F. H. Floyd, F.R.I.B.A., at the age of 76. Mr. Floyd was articled to the late Mr. F. W. Albury, F.R.I.B.A., of Reading from 1895-98, and afterwards became assistant to the late Mr. Edward Warren, F.S.A., F.R.I.B.A., and began practice at Newbury in 1904. His works included a number of buildings, chiefly domestic, in the neighbourhood.

HOUSING AND THE NEW TOWNS

Sir Patrick Abercrombie's Views

THE subject of an address to the Housing Centre on January 16 by SIR PATRICK ABERCROMBIE was "Housing and the New Towns." As Sir Patrick said, his talk dealt chiefly with housing layout and the planning of the New Towns in relation to housing, and he did not go into details regarding the internal design of the dwellings being erected.

Sir Patrick welcomed the opportunities being given to planners and architects in the New Towns, saying that the great advantage for those people who were engaged in that work was that they were being enabled to develop not so much original ideas as current ideas which many people had tried to carry out before the war but had been unable to because of lack of opportunities. Planners and architects in the New Towns had the chance of working on a much freer scale than before the war.

The most striking example of the possibilities in the New Towns was the planning of neighbourhood units. The speaker, however, suggested that careful watch should be kept on this type of development to see whether we were on the right lines in regard to the size of the neighbourhood unit, how we were disposing of these units and what we were using as the focal point of each. We should keep our research current, never relaxing the watching of the effects of what we were doing and deciding whether it was satisfactory or not.

Site Planning in New Towns.

Turning to site planning in the New Towns, Sir Patrick said it was very interesting to see how the new generation was tackling this subject of disposing of houses and roads and providing the "net housing area." Anyone who had looked into the matter and examined the work of the past would be struck with the change which had come over detailed site planning. In the older type of planning (of which he did a great many examples himself), the planners always worked on the basis of making the house group plan and the road group plan correspond as closely as possible with each other. It was a policy of short road lengths in relation to house frontage. Our old friend the *jardin anglais*, the picturesque treatment of landscape which had floated about Europe for the last 50 years, had at last invaded site planning. It had reached the U.S.A. some years ago, particularly before the war, in the high-class suburbs which we had so much admired. Whether it was strictly economical or not was a matter for research. These layouts were certainly attractive.

An example of this kind of site planning was when one had a rectangular group of two L-shaped blocks of houses and a road which wound in between them, leaving irregular grass plots and clumps of trees. That sort of work should be carried out now, and later we should have plenty of time to see whether we could afford to continue on the same lines elsewhere.

Sir Patrick commented on the greater use of terrace houses and flats in the New Town designs, compared with the semi-detached and four-block patterns used so much before the war. He thought the variety of house types was much greater in the New Towns and very much to their advantage. There were detached and semi-detached houses as well as terrace types and blocks of flats. He thought Mr. Gibberd and others were perfectly right in building dwellings in the form of flats in the New Towns. Mr. Gibberd was not increasing his density but producing another type of dwelling for people who liked to live in it.

We had found we were building an extravagant amount of three-bedroom houses. That type had been thought to be the average type, but it was not. The New Towns provided an example of the recent breakaway from that trend. With the immense change which had come over the economic situation since the war he did not think the size of a person's house was any longer an indication of the financial position of the occupant.

Question of Net Density

Coming to net density, Sir Patrick said that Harlow represented the widest type of landscape design in which there were large open spaces between units, and Hatfield represented the closest type. Welwyn had a net density on the average of about 30 persons to the acre, which was distinctly low, and Hatfield was still in the thirties—about 35 or 36. He thought Kilbride and Glenrothes in Scotland would be rather denser than that. Scots liked a closer density, because the climate there did not encourage large-scale gardening. As far as he had been able to judge, the interiors of the houses in the New Towns were not breaking much new ground in design. It seemed to him that house planning there was pretty well according to normal, up-to-date methods. The Housing Manual recently published by the Ministry of Health was a good indication of the sort of house planning which was being carried out.

In the New Towns we had an excellent example of large-scale co-operation between technicians. There was a great deal of variety in the technical set-up of the New Towns. Architects, planners, and architect-planners had been extremely broadminded and were inviting in outside colleagues to do bits of the work of developing the New Towns. That was how we should get a variety of treatment in the New Towns.

In reply to a question from MISS JUDITH LEDEBOER, Sir Patrick said he was not satisfied with the amount of decentralisation of industry which had so far resulted from the development of the New Towns idea. To the inquiry as to whether he thought the New Towns should have been even farther from London than they were, he said he thought the present scheme was a reasonable compromise. If the New Towns had been sited farther out, their development would have been very much slower. He thought the slow speed of development of the New Towns up to the present was largely due to the complicated nature of recent relevant legislation.

Builders' Benevolent Institution

The Builders' Benevolent Institution, 47, Bedford-square, London, W.C.1, have just issued their 103rd annual report with the rules and regulations of the institution.

HOSPITAL PLANNING

Symposium at the Architectural Association

IN last week's issue of The Builder *appeared a summary of some of the communications and discussions at the Post-Graduate Symposium on Hospital Planning—held at the Architectural Association on December 6. We now give a summary of the remainder of the proceedings which took place on that occasion.*

6.—The Out-Patient Consultation Department of the Acute General Hospital

In presenting this communication, MR. A. S. GRAY, F.R.I.B.A., said that plans for out-patient departments had followed three main types of arrangement: (i) that of one storey grouped round a central waiting hall, (ii) a vertical arrangement, (iii) a vertical arrangement, but in close conjunction with the wards.

He continued: "I should like to refer to a plan which is in process of being realised for a new teaching hospital of from 600 to 800 beds, of which the out-patient block is to be the first section. This will be placed to the north of the diagnostic and treatment block, while the wards will be to the south, and it will be capable of expansion in each of its four arms. The block also contains the casualty and dressing department, which can be entered at a lower level owing to the nature of the site. It is arranged in the form of a cross. Centrally there are lifts and spacious stairs to relieve them, an initial waiting hall of moderate size where registration is done, a canteen, a crèche for small children, and an almoner's department. The almoner has still a great deal of social and "follow-up" work to do. Under the National Health Acts the out-patients' pharmacy need only be small. The diagnostic clinics are L-shape, having one larger room for the professor and one smaller room for his assistant, each having four or five examination rooms, while special rooms are placed between the clinics shared by each. Large examination cubicles are very necessary in a teaching hospital.

"A great deal is said about the way in which out-patients have to wait to be examined, and indeed in all medical work, particularly in teaching hospitals, it is naturally difficult to keep an exact time-table, but if patients are given a broad appointment on the block system and then sorted out on arrival, this is probably the best method. People with domestic ties can then be allowed some latitude, and on registering can be given a specific appointment. It is necessary to start sorting and grouping the patients from the moment they arrive in the hospital. Thus divided and collected, they can then soonest receive individual attention."

The Cruciform Type of Plan

THE PRESIDENT remarked that Mr. Gray seemed to have gone even further than Mr. Powers by providing three free ends to his out-patient plan. It was possible to get almost infinite variety by using the cruciform type of plan.

MR. GRAY, replying to a question, said that the wide corridors in the plan he had demonstrated were intended to act as waiting rooms. Patients who waited there would not feel that they had been lost sight of, and they could go back to the central inquiry desk on each floor if necessary.

A speaker said that the out-patient department in Mr. Gray's plan seemed to be an entirely detached building, but there were some services shared by both in-patients and out-patients. If the hospital was big enough, perhaps these could be duplicated, but otherwise that would not be possible. Specialist departments, he said, tended to be used only for a limited period each week, and for a long time were empty. With the increasing number of clinics, it might be an advantage to introduce flexibility. MR. GRAY said that when the new hospital was built the out-patient department would be connected at each floor by a "stem," which would provide a wide corridor connecting the department with the treatment block. The special clinics which were to be built immediately would be used to the full, several for combined purposes.

Being a steel frame building, all the internal partitions could be removed, and he was trying to find some means of pulling down and rebuilding partitions without creating the intolerable dust and wet usually attending the process. He would be glad to know of any material which could be assembled dry. The partitions could be 4 inches thick and have a certain stability, but dry building was very desirable. It was intended to put a grid of plumbing and electrical and water services at recognised points right through the building. In an out-patient department it was not necessary to be as quiet as in the wards, but privacy was important and conversations must not be liable to be overheard.

A medical visitor congratulated the organisers of the symposium on including the subject of the out-patient department, because, if hitherto architects had not had reason to be so interested in it as in the ward unit, it was likely that in future they would have increasing reason to take an interest in it. It was one of the features of the present movement in the practice of medicine to provide out-patient departments where they had not previously existed, and to extend those which were found to be too small. Most of these departments would be attached to existing hospitals, and their planning would provide a great deal of scope for ingenuity and architectural skill.

7.—Structure for Flexible Planning and Services

MR. S. F. AMIS, until recently a student at the A.A. school, who dealt with this subject, said: "The need for flexibility of plan, and to a certain extent of services, is fundamental to the argument which I wish to put forward. The work which I have done on this subject in relation to hospitals has been largely the result of a thesis carried out with two other students. Our detailed concern was a method of constructing a 12-storey nursing unit complete with services and with provision for a system of screens to enable great flexibility to be obtained in the arrangement of the various rooms. The number of patients per unit was 32, composed of two sub-units of 16 each. It was intended that the system of screens should apply also and equally to the research areas and the out-patient department.

"It was considered a first principle that the usable space should be kept clear of columns and should have flush floors and ceilings to accommodate the screens, the services being accommodated in the floor or ceiling, with only a limited number of vertical ducts. It was desirable for the screens to reach to the ceiling, though part of them might be glazed. The disposition of the ducts, which must be considered permanent in position if not in use, is intimately related to the type of plan and layout.

"Coming to the type of structure, we must bear in mind the possible use of prefabrication and the desire to save steel and timber. With factory production the labour problems are eased, because men can work in all weathers, and greater accuracy can be obtained, with less wastage of material. For our problem we favoured the use of a composite system, employing both in situ and precast concrete work. On the other hand, a system of metal construction, where there is no wet work and erection is rapid, may be an equally good answer.

"To return to the composite system, at the time there seemed to be no efficient system of using precast columns over two storeys, but I understand that the construction of prestressed frames suitable for multi-storey work has been the subject of research and testing. In this scheme, the columns are 20 feet apart, cast in situ up to the first floor, and then prestressed beam soffits spanning 20 ft. along the side of the block are erected on the columns by crane and a dry steel connection is made. Next, prestressed beam soffits spanning across the block, a span of 40 ft., are erected, again by crane, and again a steel connection is made. The precast floor troughs span between two secondary beams. They can be manufactured on the site if necessary. At this stage special units are made to cope with the complications of the ducts.

"The next thing to do is to place continuity reinforcement where necessary for continuity of structure, and to put in ceiling hangers to hang the ceiling on. Everything is now ready for the in situ work, and no more shuttering is required. Having done that, the whole thing can be repeated, and you can start with the columns again, diminishing them as you go up the building.

"We now have a basic structure into which the vertical services can be installed and the duct walls built. The end walls, of hollow clinker block, might be faced with pre-cast concrete slabs, and then a continuous metal framework can take doors, windows or fixed panels. It should be possible to remove them and replace them by a glazed panel or any other type which may be needed. We now have the desired free space, which can be divided up by movable screens. The design and fixing of these screens is a problem which calls for consultation with the manufacturers concerned."

In the discussion which followed the paper, a speaker emphasised the importance of reducing noise to a minimum, and MR. AMIS

said that noise could be transmitted through the floor, or could be structure-borne, or transmitted by the effect of setting up drumming in partitions. For the floor, it was proposed to have a glass silk quilt on the floor, and then a screed with lino on top of that. The sound transmitted by service fittings could be dealt with by making a kind of rubber collar to any pipe which went through a wall. Noise from circulation areas and kitchens could be reduced considerably by using acoustic materials in the ceiling.

8.—The Functional Relationship of the Various Departments of a Hospital

Speaking on this subject, MR. L. A. WILLS, M.A., A.R.I.B.A., said that no two hospital planning problems were the same, but the main elements of all general hospitals seemed to be arranged in a framework about which the entire fabric could be disposed. The framework had been built up over the years, largely by a process of trial and error on the part of the people who actually worked in hospitals; but, while they all knew what their own department ought to be like, very few of them could say exactly how it should be related to others, at any rate in detail. It was on the summation of the claims of all the users that the architect must advise in any new scheme, and he could do this only if he understood the framework. The evidence of the users was extremely important, but the architect must point out that each department must be considered not as an isolated problem but as an integrated part of a complex structure, and before it could be planned it was necessary to undertake a tour of the main framework and attempt to analyse the functional relationships to each other of the main departments.

The speaker continued: "As far as possible, the functional relationship should correspond to the physical positioning, to reduce walking distances, but it may well be that for medical reasons some degree of remoteness may be desirable. Again, on account of mechanical aids to movement such as lifts or electric food trolleys, not every process is ambulatory. If other advantages can be gained, physical distance is not always an overriding factor, though always a guiding one. There is a good case here for time and motion studies of the more important processes to be undertaken in a wide range of existing hospitals to assist in the planning of new ones.

"I have adopted a planning technique useful for any complicated building, namely the allotment of points values to each department, followed by the development of a flow diagram. The lines on the diagram indicate not necessarily the volume of traffic between departments, although this is inferred, but partly actual physical distance and partly the chain of control within the complex. The meeting at any particular department of a number of flow lines is a measure of the importance of that department in the hospital to the plan. The diagram does not show the physical location of departments, nor orientation, and is equally applicable to multi- or single-storey hospitals.

"I have provided for a central sterilizing department. This is an American idea, but for some time now British military hospitals have been using it, and I think that it has come to stay. The acute surgical wards must be close to the operating department, to reduce shock to a minimum during transit. The critical medical wards must be near the laboratory, for diagnostic work. The out-patient department is where the diagnostic and therapeutic work of the hospitals merge. Departments where such clinical work takes place should be grouped in the neighbourhood of the out-patient department, since the volume of traffic is very great, and out-patients should for the most part be kept away from the hospital circulation. Since many of the out-patients will be collecting medicines, I have given a first relationship to the dispensary, and also to the administration, where their records are kept. Almost equally important for the out-patient department is the secondary relationship to the operating department for minor operations and to the X-ray department for diagnosis and therapy."

9.—The Problem of Improving and Extending Existing Hospitals

MR. H. H. CLARK, F.R.I.B.A., in presenting his communication, said: The Health Service now owns a large assortment of hospital buildings, the uses of which are being co-ordinated, changed and extended, in order to achieve as complete an integration as possible. This process presents the architect with an enormous range of problems. The work of improvement and adaptation calls for much more intensive effort than new work of the same monetary value, and to apply the principles enunciated to-day will never be easy and sometimes almost impossible, so that compromises have to be accepted. Great skill is necessary in assessing the comparative value of alternatives.

Before grappling with any such problem, a complete survey of the existing material must be made and all the available data assembled, including as complete information as possible about the technical services.

"Flow" diagram for a hospital (by Mr. L. A. Wills)

No large amount of alteration or extension should be undertaken without a master plan, even if it is necessary to depart from this to some extent later. The architect must be prepared to exercise complete freedom of planning and design; it is not necessary to follow orthodox plan forms or imitate existing exteriors. The appropriate solution should make its own contribution to the general development. The centre of balance or main axis can very well be moved if necessary so that adjoining space can be used for new building, retaining proper communication between it and the old, the latter to be remodelled later when there is money to do it. Sometimes architectural surgery is needed such as in the case where the boiler house and laundry were right at the heart of the site, and had to be moved to the periphery.

The possibilities of a general reshuffle of the accommodation should be explored. Wards can become staff accommodation and thus allow new nursing units to be built elsewhere on the site, perhaps on more up-to-date lines. It is doubtful whether aspect, particularly in the acute general hospital, should be over-emphasised; outlook and avoidance of overshadowing may be much more important in many instances. If nursing opinion does not favour division into small rooms—personally, I think that the smaller the room the better—the existing dormitory type of ward may be improved by the adoption of a parallel bed layout with metal screens. I do not like curtained cubicles; they are popular at the moment, but they do not improve the appearance of the ward.

Scale is often a difficulty in old buildings, where the floor to floor height may be as much as 15 ft. Resort can be had to the use of false ceilings, which are heaven's gift to the architect engaged on alterations; he can hide pipes with them, do a great deal in the way of sound absorption and insulation, and save money by the amount of painting and making good which can be avoided.

Converting Wards

Contributing to the discussion, the PRESIDENT remarked that one difficulty was to convert the ordinary pavilion-type ward into some other accommodation. The old standard of a width of 22 ft. meant that it was a most difficult unit to convert into domestic accommodation, and the 8-ft. window spacing would not divide up properly. Space was used extravagantly with only one set of rooms and a corridor, and was quite impossibly tight for a corridor with rooms on each side.

MR. CLARK agreed with another speaker who suggested that extension and alteration could provide a very valuable field for the kind of factual experiment necessary in hospital work in addition to scientific investigation.

10.—Doctor and Architect

PROFESSOR H. W. C. VINES introduced his communication as follows:—In hospital planning, architectural design should be a function of certain medical principles and concepts. In the past, doctors and architects have ignored each other too much in this country, and have found, on the whole, little common ground. That may have arisen from a sense of injustice on the part of architects, for, while doctors bury most

of their mistakes, architects leave theirs standing for all to see. In these days, however, intimate co-operation between these two professions has become a necessity, owing to the increasing complexity of medical treatments, the fluidity of method in handling patients, the scarcity of labour to run the hospitals and the fantastic cost of buildings and equipment.

Both doctors and architects have been, and still are, far too tied by the traditions peculiar to their professions. It is always easier to look back than forward, but after a while there tends to grow up an inertia or prejudice in regard to new things which may delay progress. The experimental approach is always difficult and apt to hold hidden pitfalls, but we badly need it in our hospitals. It is better to make mistakes in honest experiment on new lines than to preserve a colourless safety by slavish repetition.

Nearly all our hospitals are much behind the times. We are one of the most backward nations in this respect. Owing to shifts of population in the last 20 years, many of our hospitals are not even in the right place, and most of them are a patchwork of overcrowded improvisations, uneconomic and inefficient to a greater or less degree, where an attempt has been made to pour the new wine of present concepts into the old bottle of the ancient fabric.

Continuing, Professor Vines said that he wished to deal particularly with the acute hospital. He said: The major divisions of the treatment area of acute hospitals are the out-patient and in-patient departments. At present, greater importance always seems to be given to the in-patients, but I am far from certain that this is right. In large hospitals it is best that the in-patients and out-patients should be kept separate. Just as the broad function of the acute hospital is to get the patients back to work as soon as possible, so the object of the out-patient department should be to keep the out-patients out of the beds in the in-patient department.

The out-patient department must have every facility to make the most complete examination of the patient, without putting him to bed, and it must not be cramped in planning. It must have a full range of all necessary ancillary services, with easy communication between its various clinics and also with other parts of the hospital. It should contain all the usual general and special clinics, including the casualty department, with the major ancillary services of radio-diagnosis, pathology and physiotherapy. A second principle is that out-patients should be kept as still as possible; this reduces traffic, avoids the nuisance of patients getting lost in a large building, and minimises the spread of dirt and infection. It is often cheaper and less wasteful of time to bring the service to the patient than always to send the patient to the service.

The out-patient department should also contain one or more pathological stations or branch laboratories where simple, quick investigations can be done on the spot and where many types of specimen can be collected for transmission by service lifts to the main laboratories. The provision of treatment and recovery rooms in the clinics is another means of getting as much investigation of the patient as possible done quickly on the spot, spreading the load of work on different departments, saving the doctor's time and minimising the number of attendances by the patient and the time spent waiting about.

The Casualty Department

Referring to the casualty department, Professor Vines said that theoretically it was one of the most important elements of the out-patient service, but practically it was often unsatisfactory. He continued: It is the route of emergency entrance to the wards, and often the chief sorting and feeding centre for the other clinics. The real value of the department tends to be obscured, even in its planning, by the sensationalism of the accident case arriving in an ambulance, but such cases are relatively infrequent in comparison with the steady stream of patients arriving by bus, on bicycles and on foot with cuts, burns, bruises, sore heads and all those homely and familiar troubles which keep a man from his job for many days unless skilfully and immediately treated.

Casualty should be regarded at least as the equal of, if not superior to, a major clinic, so give it a tea-bar to solace the frightened and shocked, its own screening rooms, its major and minor operating theatres, its close relation to the plaster room and X-ray equipment of the orthopaedic department, its cubicles, treatment and recovery rooms, and its bedroom and toilet room for the doctor doing night duty.

The last feature of the out-patient department is the pathological laboratory. Doctors are increasingly dependent on laboratory data not only for diagnosis but also in the course of many forms of treatment. Progress in the prevention and treatment of disease demands even earlier diagnosis, and it is through the laboratories, and especially the chemical laboratories, that the earliest evidence of departure of bodily function from normal will be obtained. Laboratory services are extending steadily and will continue to do so. It is essential, therefore, that the laboratories shall not be cramped in planning, and shall have free access to the out-patient clinics and to the wards. I know of at least two quite modern hospitals in which the planned laboratory area is already inadequate.

Laboratories are highly technical structures, with special problems in their services and plumbing in regard to noise absorption, anti-vibration, ventilation, temperature control and the insulation of apparatus. Co-operation between the architect and the pathologist is essential in their planning.

Courageous Experimenting

Opening a discussion on Professor Vine's remarks, a speaker asked whether in densely populated areas it would be advisable to divorce the main out-patient department from the hospital proper, which would probably be some little way away from the more populous area where the out-patient department might conveniently be placed.

PROFESSOR VINES pointed out that that would involve duplication of departments, and would be uneconomic.

MR. R. LLEWELYN DAVIES welcomed Professor Vine's statement that the way to go forward was by courageous experiment. They should think how defects could be remedied, but not for ever; when they thought they might have a solution they should try it out. Personally, he was extremely anxious to see the experiment in the out-patient department which Professor Vines had described put into practice. The out-patient department at present often seemed unplanned and disorganised.

Asked what he considered the ideal size for an acute general hospital, PROFESSOR VINES said that in sparsely populated areas there would be the occasional cottage hospital; then there would be hospitals of 150-300 beds, and then district hospitals of 500-800 beds, with the university or teaching hospital at the top of the tree. He did not think that any hospital should have more than 800 beds, and not many 800-bed hospitals should be built. When more room was required it was often more economic to build a new hospital instead of expanding an existing one.

A speaker criticised the atmosphere of the average hospital as "sanitary" and unhomely. Although curtains and carpets had to be kept clean, and might harbour dirt and germs, would not they be worth while?

PROFESSOR VINES expressed entire agreement. Most of our hospitals, he said, resembled the interior of ancient railway stations, and a great deal remained to be done in the imaginative treatment of waiting spaces in particular.

SAFEGUARDING FARM LAND

Use of Derelict Sites Urged

THE need for preventing as far as practicable the use of good agricultural land for other forms of development, is emphasised in a circular issued to local authorities by the Department of Health for Scotland.

While the Department recognises that good agricultural land is usually the most suitable land for other development and that encroachment is frequently unavoidable, they suggest that the loss of agricultural land can be minimised in a number of ways. Derelict or disused sites can be developed or redeveloped before agricultural land is considered at all.

If this is not possible, the Department suggest that land of poorer quality may be used, even if this may mean some increase in the cost of the development undertaken on it. "Good land, once built on, is for practical purposes forever lost to agriculture, whereas other forms of development create a permanent value which to some extent offsets the initial higher cost of carrying them out on the less suitable land."

Generally, the Department advise local authorities to see that land is used as economically as possible and in particular to adopt higher densities of development where this can be achieved without detriment to established standards. "In housing schemes, for example, increased use can be made of narrow-fronted terrace types, two-storey flatted houses, and three-storey flats, which may have the additional advantage of lowering the cost of each house."

Although the individual gains to agriculture may be small, the circular states, it is thought that "in the aggregate over the country and the years, the advantage to food production will justify the taking of steps to minimise losses to agriculture, even where, taken by themselves, these losses may seem of no great consequence."

The Secretary of State considers that the adoption of these measures can be made easier by the fullest use of the arrangements for consultation between the local planning authorities and the agricultural executive committees.

COMPULSORY PURCHASE ORDER

A Ministerial Decision

[From a Correspondent]

AN important question of principle has been upheld by the Minister of Town and Country Planning in a recent decision. In confirming the first compulsory purchase order to be made by the Central Land Board in London, the Minister has emphasised the purpose of Section 43 of the Town and Country Planning Act—namely, that compulsory powers will be applied if it is expedient in the public interest to do so, and if the exercise of these powers by the Central Land Board will further the purposes of the Act to prevent land being exchanged at more than its existing use-value.

These expressions of policy have become a commonplace in town planning cases, but, as with the compulsory Order referred to, the circumstances of the case may cause some confusion.

The facts were that in 1947 a retired lady bought a plot of land of 968 sq. yd. in Southend-lane, Sydenham, paying £1,000 for it. The land was eventually zoned for industrial development, being close to an existing industrial estate and adjacent to a large gasworks. Consequently, the owner was approached by a firm who wished to build a small factory on the land and thus move from their existing unsatisfactory premises. Negotiations with the owner, however, failed to meet agreement over the question of the price, the owner asking £2,100 for the land and also requiring the would-be purchasers to meet the development charge, estimated at £1,000. As the value of the land in its existing use was about £450, the firm therefore proceeded to break off negotiations and referred the matter to the Central Land Board. The Board approached the owner and attempted to get her to sell the land by agreement through negotiations with the District Valuer, but these attempts were also unsuccessful.

At this stage, therefore, the circumstances of the case were similar to other disputes in which the Board have been involved, particularly disputes over the sale of house-plots. It has always been one of the Board's functions to warn purchasers against paying what amounts to a double-development charge—once unofficially in the price paid to the owner and once more officially in the development charge which is levied by the Board. Where development has been held up by the owners requiring a price in excess of the existing use-value, the Board has exercised its powers of compulsory purchase to enable development—for which planning permission has been granted—to take place.

The circumstances of the Sydenham case having been established, the Board then made an Order for the compulsory acquisition of the land. However, between the time that the negotiations with the District Valuer fell through and the publication of the Order, the owner had been approached by a builder who also wished to buy the land for use as a storage yard. Agreement with the builder was forthwith reached and the price decided on was £1,500 for the land, the buyer to pay also the development charge. On these terms the second buyer was ready and willing to go ahead with the purchase, but the compulsory purchase Order prevented these negotiations being made effective.

At the public inquiry into the Order at Lewisham Town Hall on October 17 two conflicting views as to the meaning of the Act were advanced. The owner's solicitor claimed that at the time of the compulsory purchase Order, two people were particularly interested in purchasing the land; one had been unsuccessful in negotiating a satisfactory price, and the other had. He developed the point made by the builder's solicitor that this second would-be purchaser had been and was still prepared to buy the land at a price satisfactory to himself and to the owner—namely, £1,500 for the land and £1,000 for the development charge, which he was also prepared to meet. The fact that there were two people interested in the land was known by the Board or was easily ascertainable, the solicitor continued, and there was therefore no question that the land would not have been "speedily and suitably developed" whether the Land Board had acted or not. In fact, by acting the Board were not bringing the land into development but causing a deferment.

Furthermore, the solicitor claimed, the Board's representative at the inquiry had stated that if the Order were confirmed the land would be resold to the firm of sheet-metal workers—who had first referred the matter to the Board—at a price inclusive of development charge. In this, said the owner's solicitor, the Board were preferring one industrial user over another, and it was not in the public interest that such powers of preference should be among the functions of the Board.

Counsel for the Central Land Board, however, was concerned to restate the purpose of Section 43 of the Act and to establish the principle that where it was attempted to sell land at a price in excess of its existing use-value, it was not in the public interest that development should thus be held up. It was for this reason that the land was subject to a compulsory purchase Order. Although it was not specifically stated by the Board's counsel, it was clear that the Board did not believe that the subsequent negotiations between the owner and the second applicant for the land should cause the Order to be withdrawn.

Now that the Minister has confirmed the Order for the land, it can be seen that this attitude has been upheld. The Board cannot prevent land being sold at its development value if there is a buyer willing to pay the price. In most instances there is little opportunity for the transactions to be known to the Board. But where the Board is acquainted of the facts by an unsuccessful buyer, and there is an attempt to contravene the principle of the Act, the Board may exercise its powers of compulsory purchase, despite the fact that in subsequent negotiations between the owner and an alternative buyer no dispute over the price has arisen. In other words, where there is ultimately a willing buyer and a willing seller, this will not affect the main issue if the first applicant for the land has sought the Board's help because the owner had tried to sell land at more than its existing use-value.

SOCIETIES AND INSTITUTIONS

R.I.B.A.

Notes from Council Minutes

FOLLOWING are notes from the minutes of the R.I.B.A. Council Meeting held on January 9:—

Honorary Fellowship.—H.R.H. The Duke of Edinburgh, K.G., has accepted the Council's nomination for election as an Honorary Fellow. *Honorary Associateship.*—The Earl of Rosse, M.B.E., and Mr. A. S. Oswald have accepted the Council's nomination for election as Honorary Associates.

Representative on the Court of the University of Liverpool.—On the recommendation of the officers of the Board of Architectural Education, the Council appointed Mr. F. Charles Saxon, F.R.I.B.A., for a three-year period of office beginning January 1, 1951. The cordial thanks of the Council for his services were conveyed to Mr. Harold Dod, F.R.I.B.A., the retiring representative.

A.S.B. Lecture.—The Council approved a recommendation of the Architectural Science Board that the A.S.B. Lecture on "Floor Finishes," previously fixed for February 13, should be postponed until February 27.

INSTITUTE OF QUANTITY SURVEYORS

Position of Contractors' Surveyors

SPEAKING at the annual dinner of the London Branch of the Institute of Quantity Surveyors on January 19, MR. J. GREGG, F.I.Q.S., the President of the Institute, said that the principal aim of the I.Q.S. was to establish the practicability of combining both professional and contractors' quantity surveyors in an institute with the same code of conduct. Considerable progress had been made in achieving this aim, and this would, he hoped, continue. The dinner was attended by some hundred members, with Mr. E. G. Cornish, F.I.Q.S., the branch chairman, in the chair. The toast of the "Institute" was proposed by Mr. R. W. Thompson, a solicitor, and that of "the Branch" by Mr. J. Saxon, F.I.Q.S., F.R.S.A. Mr. Crispin, L.R.I.B.A., M.I. Struct.E., Assistant Director of Works, responded to the toast of "Our Guests."

STREETS ADJACENT TO NEW BUILDINGS

Bill to Propose Compulsory Completion

THE text has been published of a private member's Bill to secure the satisfactory completion of streets adjacent to new buildings. This Bill has been presented in the House of Commons by Mr. J. Kinley, Labour member for Bootle, with the support of eight other M.P.s. It is due for second reading today (Friday).

The Bill proposes that, subject to certain exceptions, no work should be allowed to begin on new buildings which front on private streets until the owner of the land has paid, or caused to be paid, to the local authority the cost of street works there. Contravention should be punishable by a fine not exceeding £100. The Bill leaves it to the local authority to determine what amount shall be paid.

It is proposed that the Act should apply to boroughs and urban districts in England and Wales, except Metropolitan boroughs; that county councils can adopt it for rural districts, after consultation with the appropriate rural district council; and that the King, by Order in Council, can extend the Act to all rural districts in England and Wales.

Official opinion is that the proposal must increase the amount of capital required before a building can be planned and also cause delay before construction can be started.

DRY ROT IN BUILDINGS

Practical Steps in Recognition and Treatment

By CHARLES W. PEACH, A.R.I.C.S.

FOR many years up to the beginning of the second world war, timber in this country was readily available to the building industry and although the quality of the supply deteriorated rapidly from 1914 onwards, yet the price was not so prohibitive as to deter the building industry from its use in carcassing out the majority of buildings erected during this period.

This abundance of supply, with its steadily decreasing quality, had an effect on the research into diseases of wood. Wood found to be diseased before fixing was discarded, and wood found to be diseased after fixing, and after years in the finished house, was merely cut out and replaced by new wood. Occasionally a little creosote was painted over the affected part, but the knowledge to enable the diseases of wood to be prevented or effectively to be cured was never accumulated or disseminated because this simply was not necessary.

The era immediately after world war two, apart from a dreadful decline in the quality of raw timber, was completely dissimilar from those preceding, in that timber became a scarce commodity and extremely expensive. During the period of the war, the complete lack of maintenance dictated by wartime conditions served very greatly to increase the diseases of wood, and, as a result of the exposure of many premises to the weather by bombing, there was an alarming spread of that particular disease known as dry rot. The fungus was, in effect, cultivated by the conditions prevailing and its seed or spore borne by the wind settled, germinated and attacked timber in many widely separated areas.

Nature of Wood

In order to appreciate the nature of fungoid attack of wood it is necessary to see something of the composition of timber. It is a characteristic of all wood which is commonly used in the building industry that it is composed of a series of cells through which, in the past, the sap has risen to the leaves of the standing tree. When the tree is felled these cells are, for the most part, full of sap, water and mineral salts, and the process of seasoning is the drying out of this content. Even when the log or planks are completely seasoned these cells still contain a small percentage of water and this percentage fluctuates with the amount of water in the atmosphere, but is fairly steady under most conditions at between five per cent. and ten per cent. by volume.

It follows, therefore, if the wood is placed in damp surroundings or in direct contact with the earth moisture, the hygroscopic (water-bearing) cells of the wood will begin to absorb this moisture and the amount in the wood will eventually exceed the normal ten per cent. or so. It is under these conditions that wood becomes susceptible to fungoid attack.

Wood Fungus

There are many different species of fungus, to all of which is applied the term "dry rot," but this general application of the term is incorrect. Dry rot is only applicable to one particular species known as "merulius lachrymans," and this derives its name from the fact that it requires only a very small amount of additional water to be taken up by the wood in order to germinate the spore or seed. Generally this is in the region of 20 per cent. by volume. "Merulius lachrymans" can be identified quite simply by the fact that it causes the wood which it attacks to split across the direction of the grain, which no other fungus yet met in this country can do to wood. Fungus reproduces itself by means of very tiny seeds called spores, which are formed in what are termed the fruit bodies, varied in shape with the species, and serving as an additional means of identification. These fruit bodies are either composed of hollow tubes or else gills such as are found on the underside of the edible mushroom.

Between these gills or in the hollow tubes several hundred thousand spores are developed, and when mature are released to be carried by the wind. Those finding certain conditions of darkness and dampness only will germinate, but only then in certain degrees of temperature. As regards dry rot this means that little germination will take place during the winter, though the other conditions may be favourable.

Dry rot can also travel from place to place by means of long strings or cords which the point of origin throws out, and which appear to travel in search of damp conditions, sometimes as much as ten feet at a time, though where there is food for it to feed off, the distance will be much greater. These strings are of great strength, and have been known to penetrate and to fracture brick walls of considerable thickness.

The other characteristic formation of merulius is the fleshy soft grey substance, known as mycelium, which covers the surface of woodwork in dark and damp situations. The fruit bodies of merulius are shaped like pancakes, and the pores which bear the spores are coloured yellow or sometimes red-brown. This should be reasonably easy to identify, with its grey strands, sheets, and ghastly splashes of yellow or red-brown. "Merulius lachrymans" is the most dangerous, and by far the most difficult to eradicate, penetrating brick walls, and completely devouring the fibres of the timbers on which it feeds, resulting in their eventual collapse.

Common Types of Fungus

There are, however, other types of fungus which, although not so virulent as merulius, yet can be as dangerous to structural timbers in the location in which the spore germinates. Taking these in order of the amount of water which is necessary to be present in the wood to ensure germination, the species known as "porallia" comes next.

Only two types are generally found in the London area, though very many different types exist. "Poria vailliantii" is the chief of these, and is composed of sheets of mycelium which are white coloured with similar coloured fruit bodies shaped like plates, while the cords are very small and do not travel appreciable distances and cannot penetrate any solid obstacle. There are no coloured splashes.

Another type of this same species is called "poria monticola" and has become prevalent recently in the London area after being imported from Africa. This is somewhat similar to the above, but can be identified easily by reason of the fruit bodies which look like little puffs of cotton wool. This type thrives well only in extremely damp situations and is local in effect. The conditions which are necessary for the germination and thriving of poria monticola are the same as those which are necessary for cellar fungus, for which the correct name is "coniphora cerebella." This is, of course, extreme dampness, and the wood which has formed the food for this fungus can be identified by the characteristic darkening and longitudinal cracking with the grain. This fungus is yellowish and as it becomes older turns deep brown and finally black; the fruit bodies, which form practically all the other growth besides the slender cords, are sheets, and the ends of the fertile tubes are terminated in pimples which show on the surface.

Conditions for Germination

Conditions for germination and thriving of these fungus are darkness, dampness, a certain minimum temperature and, above all, still air. Having germinated, a change in any one of these characteristic necessities serves usually to retard the development of the fruit bodies only, and to cause the master plant to throw out cords in search of a position where all the conditions prevail and where the growth can re-establish itself. In the case of cellar fungus and poria monticola, the absence of the correct amount of water results in its death.

The eradication of an attack resolves itself into two categories, the works necessary and the chemical treatment. The first step in eradication is a correct appreciation of the cause of the spore germinating. A proper survey must be carried out and attention must be paid to the provision of a through draught (and in this case there must be an entry and exit for the air) no less than to the eradication of the damp conditions.

Damp conditions in a house are frequently caused by the occupier heaping the earth or laying concrete over the height permitted below the damp proof course, which enables the water from the earth to by-pass the damp proof course and to enter the building. It is not necessary to cover the damp proof course in many instances; merely bringing the concrete, etc., level with the course will result in splashes of water soaking into the wall. Minimum depth of earth below d.p.c. is 6 in.

Parapet walls are one of the chief causes of dry rot and fungoid attack in the upper storeys. In good practice they are provided with d.p.c.s, but normally these are absent, and a slight decay of pointing to the coping or decay of a fillet will give rise to just those damp conditions which will germinate fungus spores. Other minor causes are found in leaky drain pipes, and unpointed ridge tiles. In every case the root cause must be found and the fault remedied or the subsequent treatment will be of little avail. In the smaller and cheaper types of houses the site is not usually covered with concrete or tarmacadam, and the chippings left on the unexcavated space below floors is a frequent cause of the germination of a master plant. The specification of works for the cure must make provisions for the complete clearing of such spaces and ensure that carpenters or joiners remove all shavings occasioned by the works.

Any great amount of firewood stored in

garages and basements which are damp, ill-ventilated and ill-lighted, forms a potential danger, and a lessor of premises should insist on periodic inspections to ensure that these places are kept in the proper manner so that his premises may be safeguarded.

Frequently fungus attacks woodwork in the unventilated corners of a room where the floor abuts on to the solid floor of the kitchen, etc., and here it is almost impossible to provide for through draught unless the floor be taken up and 4 or 6 in. drain pipes laid before concrete is relaid. Before such a course is decided on it is advisable to see if the whole of the wood floor cannot be ventilated in a cross direction by cutting out and inserting air bricks. As an added preventive it is sometimes possible to poison the fungus with certain chemicals, but this will be of little avail if the works are not correctly executed to remove the root cause.

Chemical Deterrents

These chemical deterrents may be dealt with under the following categories: *Tar oils.*—This means creosote, and as a deterrent this is particularly effective, but it has certain disadvantages. It is, of course, the traditional deterrent, and should not be overlooked on this count, but for fully effective creosote to be employed it must comply with British Standard Specification No. 144. By insistence on this the owner is safeguarded against any of the preparations which may be less effective than that acceptable to the B.S.I. Creosote, even when applied hot with a brush very liberally does not usually penetrate the wood more than one-sixteenth of an inch, and thus if the protective layer becomes penetrated the fungus can obtain a growing hold on the wood.

It is not possible to paint over creosote, and one cannot creosote any timbers which are likely to bleed out on to plaster surfaces, and of course creosote cannot be used in larders and other food storage places as the odour will taint such food.

Water-soluble Deterrents

Recent research has produced a series of water-soluble deterrents to fungoid attack, but the oldest and the most tried is called "sodium fluoride." This has been used in Germany for about 80 years with considerable success. A 4 per cent. solution of the commercial chemical is employed, i.e., 6 oz. to the gallon of water (it is not possible to get the water to hold much more as it is not very soluble), and two applications of this with a brush is usually quite effective. After drying it can be painted over if the wood is primed with aluminium paint instead of the usual red and white lead. Penetration is again not very good, very little more than that of creosote, and this substance has the additional disadvantage of being non-permanent; it will wash off if subjected to water or rain. Therefore, exterior application must be painted over.

A better chemical is "magnesium silicofluoride." Eight oz. to the gallon of water should be mixed in a tub made of wood, because this chemical attacks glass and metal. It has reasonable penetration, and it appears possible to paint over this surface with Barium paint (lead paint should not be used). Barium paint is not, of course, unusual and can be obtained from any normal paint supplier. Again, it is non-permanent.

"Mercuric chloride" can be used in solution of 1:1.000 for sterilising brickwork, but it is extremely poisonous and should only be used by an expert firm or operative. The best course is to sterilise with the flame of a blow-lamp or welding torch, holding the flame on the brick long enough to raise its temperature so that it cannot be touched comfortably. "Copper sulphate" (blue stone) is an excellent deterrent, but is not at all permanent. It has been used for many years in France with excellent effects, and should be used annually in protection of all seed boxes, forcing frames and greenhouses.

Recent English Development

A recent development, by the English this time, has given greater possibilities to these water-soluble salts. The addition of an alkali dichromate (such as potassium) appears to have the effect of fixing all these in the wood after drying, and of preserving their poisonous properties to fungus. This development is of very recent origin, and it is not yet certain whether this effect is fully permanent, though it is certain that it provides a greater degree of permanency.

Another attempt at providing a permanent preservative has been in recent years to use a chemical which is not soluble in water, and thus cannot weather out. The only really effective one known is called Z.M.A., which stands for zinc-meta-arsenite. Z.M.A. works in the following manner. The chemical is dissolved in dilute acid, chiefly acetic acid, and is applied in two coats. It has been found that the fungus which attacks wood secretes a small amount of acid itself, and this dissolves some of the Z.M.A., and it is thus self-poisoned. This development is of recent origin, and it seems to the writer that it would be necessary to paint with an inert paint only.

Oil Solubles

Oil solubles are by far the best group for practical application, the only disadvantage being that they are, generally speaking, expensive to buy in small quantities. However, some firms are making strenuous efforts to reduce the production costs of many, and in the near future they may, save in special situations, supersede all other types of deterrent. In England the research into this group, which is, of course, permanent by reason of not being washed out by rain, etc., began with the copper and zinc naphthenates, which are dissolved in solvent naphtha or white spirit. The solution is applied in two coats, and the spirit dries out leaving the wood permeated to a reasonable depth with the chemical.

In America, Dow Chemicals, Inc., concentrated research into the chlorinated phenols, and in "pentachlorphenol," better known simply as "penta," they have discovered a really excellent preservative which will, in the writer's opinion, eventually supersede all others. This is made in England under licence.

Prevention of Dry Rot and Fungus

The foregoing has been concerned chiefly with the cure of dry rot in existing conditions, but a few words on prevention of dry rot and of the means by which this can be achieved will not be out of place. The most important point to be taken into consideration when converting premises or when erecting new premises, is to ensure that in the design there is no fault which would give rise to conditions favourable to fungus attack. Carefully designed roofs, correct placement of gutters calculated to remove the whole of the flow from the roof without flooding, and provision of damp-proof courses, or with solid floors of modern houses damp-proof layers, can keep the damp at bay.

A properly designed draught system for the underfloor cavities ensures that the whole of the moisture is carried away by the moving air, and all parapets, walls and copings should have damp-proof courses. Windows in cavity walls must have a lead flashing inside the wall over the head of the window, and this should be laid to carry the water to the outside. However, even if all these details are carried out successfully and entirely correctly, lack of maintenance can give rise to the conditions which will ensure a fungoid attack.

It is necessary to use some form of preservative. It has been shown that it is not really 100 per cent. effective to paint over the surface with a preservative, since the degree of penetration, even with the oil solubles, is not unduly high. The railway companies for many years have used a system which has produced very fine results. Using creosote to B.S.S.144, they have dipped rail sleepers into a long tank and left them completely submerged. A fire is lit under the tank, and the creosote brought to a very high temperature and then allowed to cool, before repeating the process.

The reason for this is that when the wood is heated the air in the cells of the wood gets hot, expands, and is driven out of the wood. When the cooling begins, the creosote follows the air left in the wood back into the hygroscopic cells by simple suction. Repeating the process results in nearly 100 per cent. penetration through the entire sleeper. This process is equally applicable to other preservatives which are not inflammable, and in recent years has been carried out in many places with excellent results. Butts of all joists built into some houses have been creosoted in this manner in many public housing projects with success.

Recent research in Britain and America has resulted in the setting up of huge plants to achieve 100 per cent. penetration of wood by a much quicker process. The wood in this case is placed in huge vats comparable to pressure cookers, and the process is completed at high pressure and temperature in the course of one operation. Timber so preserved is called "pressurised preserved," and should be so specified.

The chemicals used in the pressure preservation process are a composition of salts which are fixed by the new process with alkali dichromates, and which are equally poisonous to woodworm as to fungus. Certain timber merchants are able to supply stocks of timber preserved by this process. It will, of course, be realised that this timber is most effective in repairs of woodwork to houses which have been attacked by fungus.

Conclusion

It is most important that all cases of fungus attack should be treated as if they were attacks by "merulius lachrymans," unless positive identification can be made of another type of fungus, in which case less stringent measures can be taken. Nor should it be thought that mere treatment of the wood affected by fungus will be effective; all affected wood must be cut right out and burned on site to destroy the spore. A joist, for instance, affected at one end must be cut back 12 inches from the last point of affection, lest the cords inside the wood still be active.

Let it not be thought that this scourge, dry rot, is with us for ever. Prompt action by good chemicals and prudent owners can eventually destroy the entire species.

LONDON MASTER BUILDERS

SHORTAGE OF MATERIALS

Minister of Works' Comments

ADVICE to builders who are unable to obtain reinforcing bars and other forms of steel was given by the MINISTER OF WORKS (Mr. R. Stokes, M.P.) when he spoke at the luncheon which preceded the annual meeting of the London Master Builders' Association at the Park-lane Hotel on January 18. "If you don't know how to do it, learn to scrounge," he said. "I do not believe that builders are so backward in coming forward that they cannot find a way over their difficulties. The steel is there, and builders must make sure that it does not fall into the wrong hands; there is a very queer crowd of middlemen knocking about, and I invite your attention to that." The Minister was responding to the President, MR. R. R. COSTAIN, C.B.E., who in his remarks had said that steel had practically disappeared from the market and that "six months delivery is the best a builder can now hope for."

In his speech MR. COSTAIN spoke of the general situation as regards materials. Most of these, he said, were either under the direct control of the Ministry of Health, or influenced by Government decision; supply had improved to quite a considerable extent over the five years since the war, but there was every indication that supplies would again deteriorate. Timber was worse than it ever had been. Shortage of coal was making it increasingly difficult for manufacturers of building supplies. "We have made every effort to adapt ourselves to the fluctuating availability of materials," he added, "but when we are asked to use substitutes for substitutes, life becomes a little difficult. It is vitally important that the building industry's pipeline of materials should be kept reasonably full, in order to maintain the general flow of supplies to contracts at a satisfactory level. Not only must there be plenty, but everybody—employer and workman alike—must know that there is plenty."

Building was certainly the most disturbed industry since the war, both economically and politically. Builders had readily accepted the policy of full employment, but its effect upon the economy and planning of the industry must be realised. Previously, to put it rather bluntly, the labour went to the job, wherever it was; now, to a far greater extent, the job must go where the labour was, unless additional expense was to be incurred, and building was, therefore, a far more static industry.

He added: "The advent of full employment has had certain other effects, too, which are not perhaps fully appreciated and our general method of dealing with this situation is by the introduction of 'incentive' schemes which are meeting with growing support from members of the industry, and I believe these schemes will help to increase output considerably."

Those disturbances and uncertainties not only had a most unsettling effect upon productivity, they also interfered most seriously with the inflow of apprentices and training generally. The Association were not, as employers, crying out for security — what they wanted was continuity, to enable their members to keep their teams of men together.

In response, the Minister spoke on the subject of apprentices, and said that the proportion of apprentices to the 160,000 craftsmen in the London area was not as high as could be wished. It was a curious feature of the building industry that it was up to the individual whether or not he took on apprentices.

On the subject of efficiency in building the days of slave-driving were over. If we wanted to teach people to think for themselves, the greatest possible reciprocation from the normal worker was required; we must approach the matter of incentives schemes realistically. Why, under a capitalist system, should the capitalist require an incentive but the worker not? The truth was, whether one earned £5,000 a year or £6 a week, everyone could do with a bit more!

Turning to the programme ahead, he said that the volume of building in 1951-52 must be a great deal heavier than before, and no one was going to be out of a job. The Government were going on with the housing programme and he hoped that with incentive schemes we should get more houses and not fewer. Redeployment of resources might make it very uncomfortable for many, but the situation necessitated some readjustment. As to materials supply, it was expected that cement production in 1951 would reach 9.2 million tons. Bricks, of which 6,000 million had been produced in 1950, would be stepped up by 20 per cent., if not more. Timber was dependent on shipping; supplies had been bought but could we get the ships to get it here?

THE MINISTER OF WORKS AT THE L.M.B.A. LUNCHEON. Seen above is Mr. Richard Stokes in conversation (left) with Mr. R. R. Costain (retiring President) and (right) with Mr. Dudley Cox (incoming President) at the luncheon which preceded the annual meeting of the London Master Builders' Association on January 18

ANNUAL REPORT

Record of a Busy Year

FOLLOWING luncheon, the 79th annual report was presented by the President. From it we take the following extracts:—

The Association and the industry can look back on the past year with some measure of satisfaction. It is admitted that not much greater freedom has been allowed to the industry and it is still maintained that if that freedom were given, if the supply of materials could be put on a much more satisfactory basis, and if the general builder could look with greater confidence into the future appreciating a continuity of work more free from the formalities which are at present necessary before works can commence, the psychological effect upon the whole industry would be considerable. There is little doubt in the mind of the Association but that, as a result, production would substantially increase, leading to a reduction in building costs, whilst the difficult questions of apprenticeship and the like would be approached with greater confidence.

The debates in Parliament and in other places on the housing question have awakened the minds of the public to an even greater extent upon the seriousness of the housing problem. The Government has made it clear that the economic situation, coupled with the other demands on the building industry, make it impossible to increase the figure of 200,000 houses a year, but undoubtedly a great deal more will be heard in Parliament and elsewhere on the subject. It should be noted that this policy, which confines the bulk of the house-building to contracts for Local Authorities, is depriving the country of the benefit of the plant, organisation, ability and knowledge of those firms which in the past have specialised in house-building and which made such an overwhelming contribution to the housing question in the inter-war years. That part of the building industry as we knew it has in fact ceased to exist for the time being.

The question of rising costs affects the whole country and not the building industry alone. From the industry's point of view, however, it is a matter of grave seriousness touching the cost of both labour and materials and continuing the position in which it is regrettably still impossible for builders to tender with confidence on fixed prices. The suspension of Marshall Aid is likely to affect the industry severely in regard to both supplies of materials and costs generally.

Labour Matters

After dealing with constitutional and variation amendments the London Regional Joint Committee felt the time had arrived when the whole layout of the London Working Rule Agreement should be reviewed. Piecemeal amendments had been made over many years and the document had become somewhat out of balance. The sub-committee appointed have nearly completed their

arduous task and it is hoped that the 1951 Agreement will show a substantial improvement in this respect.

More and more firms, of differing sizes and constitution and engaged upon varying types of work, have come to find ways and means of implementing the incentives agreement with a consequent beneficial result on production and operatives' earnings.

This year the Operatives' Federation has submitted a proposal for a general increase in the wage rates of 6d. per hour in all districts and all grades. The consideration of this proposal is bound to be linked to some extent with the protracted discussions on the operation of incentive payment schemes.*

Apprenticeship

Apprenticeship has continued to engage considerable attention at both regional and national levels. Whilst the National Apprenticeship Scheme makes steady progress it has certainly not reached its objectives. The Association has felt that the particular circumstances applying in London called for certain revisions to make the scheme more practicable, and these ideas are being explored through the medium of national committees and conferences. In the meantime, however, records show that the number of apprentices indentured in London for 1950 is still only around the 1,000 mark, which is only some 20 to 25 per cent. of the required number. Although the planning ahead of building operations is bound to be somewhat difficult whilst controls and licensing continue, the likelihood of any reasonable continuity of work is sufficiently certain to enable employers to take apprentices with every confidence. It has been decided that apprenticeship shall be a continuous process uninterrupted by military service. Another slight amendment is that regional committees shall have wider powers to accept "late entrants" where circumstances justify such action.

Since December, 1949, the number of Apprentice Master schemes in operation has been reduced from 19 to 8 in accordance with the policy agreed with the B.A.T.C. Approximately 1,000 boys have entered the industry through the medium of these schemes in London and more than 800 have since been transferred to normal apprenticeship, including over 400 transfers effected this year.

Technical Education

Much has been done to increase the liaison with the education authorities with particular regard to technical colleges and schools of building. An education sub-committee of the Administrative Committee has been established to deal with all matters relating to training and education.

Standard Forms of Contract

Discussions have continued with the Associations of the Metropolitan Borough Engineers and Surveyors and the London (Outer) Regional Surveyors on whom has been urged the value of the use by all local authorities throughout the London Region of the Standard Form. These representations have been sympathetically received, though they have necessitated consultations with clerks of the councils and other officials before further detailed discussions could take place. Progress is, however, being made and the position will be closely watched. Representations on similar lines have also been made recently to the Middlesex County Council, who are understood to be reviewing the whole matter.

Tendering Without Quantities

Problems with regard to this matter have continued to arise. The comments in the Working Party Report have led to a review of the position at national level and consideration is now being given to an alteration in the existing rule, which it is hoped may obviate some of the current difficulties. There are two points, however, that must be appreciated. The first is that in many parts of the provinces the quantities rule previously stood at a very much lower figure and was observed by all parties without any question. Those localities therefore felt that they had sacrificed a great deal in raising the figure to £1,500 for the sake of making a national rule. Secondly, the figure itself, or the description of the excepted work, is secondary to the measure in which it is accepted by the professions. To raise the current figure alone is simply to transfer the difficulty to another figure-level. The discussions which* are now taking place therefore are designed to ascertain how far the R.I.B.A. and the R.I.C.S. are prepared to urge upon their membership the acceptance of a rule of the National Federation provided that the rule is along lines which the architects and surveyors are generally prepared to accept. It is hoped that some progress may be made in the New Year.

House Building

The emphasis upon a need for greater release of private enterprise house-building has drawn attention once more to the work of the National House-Builders' Registration Council and has served as a timely reminder that, by a rule of the National Federation, any member who builds houses for sale or letting must register with that Council, pay its fees, build according to its standard specification, be subject to its periodic inspection and must give its guarantee on completion of the works.

Supplies of Materials

These and other related subjects are regularly dealt with at meetings with the Ministries and it is constantly emphasised that the industry is handicapped and its costs increased by the ever-recurring need to find substitutes where shortages are developing and then to find fresh alternatives for these substitutes. All this affects productivity very seriously. The building industry is one which needs a constant flow of materials and a shortage, or threat of a shortage, at once slows down production on the site

Research

As the year ends fresh discussions have been opened up in a direction which, it is hoped, may lead to a more practical approach and which may result in making information more readily available to members, whilst at the same time providing means by which members can have their individual problems looked at and advice given in a way that has not hitherto been attempted. Further advice upon these proposals will be forthcoming in due course.

Builders' Foremen

The London Regional Council of Builders' Foremen and Clerks of Works, consisting of representatives of the three organisations representing builders' foremen and clerks of works in the London Region, was set up in April. Subsequent meetings of this Council have shown a close spirit of co-operation between the three constituent Associations, and the work of the Council has been stimulated by the setting up of a liaison committee with the L.M.B.A. The Association has sought the views of the Council on a variety of subjects to which close consideration is being given.

The Association has also been very active during the year in establishing liaison with the technical schools which are running courses of training for foremen, so as to ensure that these courses are suitably graded to meet the needs of those wishing to attend them, and are geographically situated where they are most needed.

The Association has throughout the year maintained its long-standing friendly relationship with the L.B.F.A., and has greatly appreciated their assistance in the formation of the Foremen's Regional Council. Arising from this, the L.B.F.A. have generously agreed that the employment register for their members maintained at 47, Bedford-square shall now be open also to members of the other two London foremen's organisations.

Membership

The total wage roll of the Association this year shows a further increase over the 1949 figure and now totals £42,345,244. At December 31, 1950, the membership figures are as follows:—

Ordinary members ...	...	1,777
Associate members ...	...	82
Sub-contractor members	...	38
Honorary members	...	6
Total ...		1,903

Maintenance Builders' Committee

Three important matters which have been dealt with as a direct result of discussions of this committee have been the provision of a set of conditions for use by members on estimates for maintenance work, the issue of a memorandum on builders' third-party insurance and the securing of information concerning the rates of charges to builders of the numerous water authorities covering all parts of the London region. In addition the committee has been endeavouring to obtain assistance from the War Damage Commission with regard to instalment payments on jobs under £200.

Other matters with which the committee has dealt include the War Damage Commission's requirement that a professional adviser should be employed in all cases of "late notification," operatives' free-lance work at week-ends, questions by the Ministry of Labour with regard to a discharged operative's holiday payments, notification of tender results, nationalised industries and discounts arrangements, shortages of materials, and a great many problems arising in connection with the licensing regulation.

Election of Officers

THE FOLLOWING L.M.B.A. officers for 1951 were then elected: President—Dudley F. Cox. Senior Vice-President—D. E. Woodbine Parish. Vice-Presidents—A. W. Yeomans and Gerald A. Hill. Hon. Treasurer—Nigel Hannen.

Owing to ill-health, Mr. W. H. Gough-Cooper, who would have been Senior Vice-President this year, has retired from office.

The Council were elected as follows: R. S. Williams, K. C. F. Foster, L. H. Colls, R. F.

* The next meeting of the N.J.C. will be on February 9.—ED.

Mansell, E. A. Thorogood, A. G. Miles, E. C. Beck, H. Ellis and H. Vincent.

Mr. Costain's Valediction

After investing his successor, MR. COSTAIN (in responding to a vote of thanks proposed by Mr. Cox) said he would take the opportunity of offering two pieces of advice to members. "First, let us never forget," he said, "that we shall never go back to the 1930s. We need new thinking to meet new conditions. We must learn to work with the operatives.

"And second, while we remember that our industry is very individualistic, let us also remember that that very individualism has one great danger—it is akin to selfishness. Unless we are prepared as individuals to carry the whole Association forward in the matters of encouraging apprenticeship, of further training and of care for the welfare of our employees, we shall deserve what we shall certainly get."

STEEL SHORTAGE

A Selection of Views

A SERIOUS shortage of steel was reported at last week's annual meeting of the London Master Builders' Association (reported on page 149). Following the remarks made earlier in the day by the Minister of Works, MR. G. H. A. HUGHES (Director, L.M.B.A.) said that the steel situation was desperate. The shortage of reinforcing bars had been aggravated by a shortage of structural steel; this had resulted in designers turning over to reinforced concrete work, and a double pressure was thus being exerted. The Council was to consider a resolution which would go to the highest possible level. It was absurd to ask contractors to get out prices when it was quite impossible to get steel.

MR. S. F. S. HEARDER (Director, National Federation) said that the Federation did not intend to let the Minister get away with the suggestion that builders should scrounge steel; they intended to get it in the proper way.

The Ministry of Works explained that Mr. Stokes's suggestion that builders should scrounge steel was made jokingly, and stated that they had no further comments to add to the Minister's remarks.

The Ministry of Supply said that if some builders were experiencing a shortage of steel it might be because many people were over-ordering. Several industries had complained of supplies being difficult to obtain. There had been a certain amount of panic-buying ever since the Korean war started. There was no other reason, so far as they were aware, why builders should be short. The rearmament programme, it was admitted, was absorbing a proportion of the steel supply, but steel production was still running at a high level and rearmament was not responsible for any alleged shortage, it was stated.

A representative of the Iron and Steel Trades Confederation said that the steel shortage was not confined to Britain alone; there was a world shortage. Prices of steel in the U.S. had risen fantastically. Armament manufacture was swallowing vast quantities.

The Late Mr. A. F. Heydorn

We regret to record the death of Mr. A. F. Heydorn, founder and chairman of Dixon's Paints, Ltd., which took place on January 16.

BUILDING INDUSTRY ORGANISATION

4.—The Rise and Fall Clause

[From a Correspondent]

THERE is one much needed improvement in the organisation of the building industry which can and should be made now. That is the withdrawal of the rise and fall clause from building contracts. Such a clause is justifiable only in war time, and when normal economy is apt to be violently upset. There should be no excuse for continuing to incorporate this clause in contracts let five years after the end of the war. A contract which contains this clause reduces the contractor to the level of a foreman or agent for the architect. He is, however, not so well off as a foreman because he has to find the wages and finance the contract, to accept and be responsible for the work of sub-contractors nominated by the architect and, very often, wait an unconscionable time for the final settlement of his account.

We mentioned last week that difficulties over the fixing of production targets and incentive payments were frequently complicated by the workers' suspicions that the contractor was doing too well out of the contract. This suspicion feeds upon such an anomaly as a fluctuations clause which the operatives, many of them knowledgeable fellows in these matters, believe to work out in practice as "heads I win; tails you lose." We know that contractors will argue that market prices are still so unsteady as to reduce contracting, without a rise and fall clause, to a mere gamble. This, however, is mere hedging, a refusal to face up to their responsibilities. If building to-day is a gamble the rise and fall clause merely transfers the risk from the contractor to the building owner.

There are perhaps 10,000 or more firms who, at this moment, are undertaking building work by contract. So long as the rise and fall clause lasts, these 10,000 firms remain blissfully unaffected by the rising cost of materials; in Service parlance "they couldn't care less." This is a dangerous frame of mind to get into. It might well put an end to the building programme, at least for the time being. Without such a clause each and every one of these firms would be an active agent in getting prices down. They would bring pressure to bear on the manufacturers, they would encourage new firms to supply cheaper materials, they would adopt wherever possible an equally good substitute for an expensive article, they would take their custom elsewhere. That is the language of commerce, and it is well understood. No individual firm could survive unless it used this language; equally no industry can survive that fails to use this language constantly and continuously. To "pass the buck" to the building owner, which at the present time is much the same thing as saying to the Government, is simply not good enough.

Suggest to the average building contractor that the time has now arrived to dispense with the rise and fall clause and you will probably be met with a vociferous expostulation. "Downright impossible" he will say, "Why, take timber alone; we must buy what the Government gives us and pay the price they fix. A contractor could go bankrupt on a single contract if he took the risk on rising timber costs." This may well be so, but it does not vitiate the argument; it merely strengthens the case against the continued Government bulk purchase of timber. If the industry were to accept fixed prices for everything except timber the spotlight would be focussed upon this canker and there would be a much better chance of its early cure.

The Girdwood Committee incorporated in its Second Report on the Cost of House-Building the following significant paragraph:

> "We would emphasise that the advantages which an efficient contractor would normally expect to secure over his less efficient competitors by means of keen buying based on a sound reputation and well-established business connections, are to some extent lost by the retention of the fluctuations clause; that the clause removes some of the incentive to rapid progress on contracts; and that it also lessens the downward pressure on materials prices (and therefore on house-building costs) which contractors would otherwise exert in their own interests. Furthermore, the overhead expenses involved in preparing and checking claims under the fluctuations clause add indirectly to the cost of houses. We consider that the ultimate objective should be the discontinuance of the price fluctuations clause and a reversion to the system of fixed price tendering."

No one is justified in living beyond his means; either the means must be increased or the coat must be cut. Local authorities are at present living beyond their means in the matter of house-building and are passing the burden on to future generations. This course would be justified only if at the same time they were passing on to future generations the benefit of what these generations will be taxed to pay for.

Will present day housing prove to be such a benefit? It is extremely unlikely that this will be the case. A period of 60 years is far too long over which to spread the capital cost. Maintenance expenditure will increase from year to year, and long before the capital is repaid the rents will either have to be increased or much greater burdens will fall upon the local authority. The policy of a subsidised class living at the expense of the rest of the community requires more justifi-

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cation than mere political opportunism. The time is overdue to stop or greatly reduce the programme of local authority housing. The alternative of private enterprise housing at a fixed price is required to give the local authorities a yard-stick which will enable them to measure contract prices. Therefore, let the Government remove the embargo on private house-building, let them require contractors to submit fixed prices for local authority housing contracts, and let healthy competition restore sanity to the building industry.

[*Concluded. Previous articles appeared in our issues for January* 5, 12 *and* 19.—ED.]

M.O.W. WINTER LECTURES

February Programme

LECTURES to be given in the Ministry of Works winter season of discussion-lectures on subjects of interest to the building industry are as follows :

February 5.—"Economy in Traditional House Building," by N. S. Pippard. Walter Lawrence and Sons, Ltd., Joinery Works, Sawbridgeworth, nr. Bishops Stortford. 7.30 p.m. *February* 5.—"Good Practice in Plumbing," by G. Lloyd Ackers, M.I.C.E. Eastbourne Technical Institute, Eastbourne, Sussex. 7 p.m. *February* 6.—"Timber in Building—Factors Affecting its Behaviour and Durability," by R. G. Bateson, M.A. (Oxon). The Star and Garter Hotel, Andover, Hants. 7 p.m. *February* 6.—"Introduction to Site Costing for Builders," by A. E. Chittenden, D.F.C., B.Sc., A.M.I.C.E. Physics Lecture Theatre, Royal Fort, Bristol, 8. 7.30 p.m. *February* 6.—"Some Mechanical Aids Developed for Building," by K. G. H. Fryer, O.B.E., M.I.Mech.E. City Technical College, Byrom-st., Liverpool. 7.15 p.m. *February* 7.—"Introduction to Site Costing for Builders," by A. E. Chittenden, D.F.C., B.Sc., A.M.I.C.E. Town Hall, Devizes. 7.30 p.m. *February* 7.—"Essentials of Good Concreting," by J. F. Greinig, A.M.I.C.E. Du-Jon Restaurant, Market-pl. Peterborough. 7.15 p.m. *February* 7.—"Mining Subsidence," by P. J. Potts, M.Sc. Y.M.C.A., Connaught Hall, Blackett-st., Newcastle-on-Tyne. 7 p.m. *February* 7.—"Building for the Farmer," by A. R. Broadhead, L.R.I.B.A. Lecture Hall, The Technical College, Lord-st., Keighley. 7.15 p.m.

February 7.—"Applications of Zinc in Building," by E. G. Ridge. Trinity Hall, Trinity-st., Worcester. 7.15 p.m. *February* 7.—"Techniques and Devices for Improving Bricklaying Output," by C. S. Thompson, A.M.I.Mech.E. City Museum and Art Gallery, Tavistock-rd., Plymouth. 7.30 p.m. *February* 7.—"The Building (Safety, Health and Welfare) Regulations, 1948," by S. Jones. Volunteer Hall, Galashiels. 7.15 p.m. *February* 8.—"Good Practice in Plumbing," by G. Lloyd Ackers, M.I.C.E. Twickenham Technical College, Egerton-rd., Twickenham. 7 p.m. *February* 8.—"Good Practice in Domestic Drainage," by F. J. Crabb, B.Eng., M.I.C.E. Mining and Technical College, Church-st., Barnsley. 7.15 p.m. *February* 8.—"Techniques and Devices for Improving Bricklaying Output," by C. S. Thompson, A.M.I.Mech.E. Municipal Hall, Taunton, Devon. 7.30 p.m. *February* 8.—"Essentials of Good Concreting," by J. F. Greinig, A.M.I.C.E. Gas Showrooms, Osborne-st., Grimsby. 7.15 p.m. *February* 12.—"Powered Hand Tools," by A. F. Coare. Adelphi Hotel, St. Leonards-on-Sea. 7.15 p.m. *February* 13.—"Introduction to Site Costing for Builders," by J. C. Morgan. Technical College, Workington. 7 p.m.

February 14.—"Good Practice in Plumbing," by G. Lloyd Ackers, M.I.C.E. Creighton School, Strand-rd., Carlisle. 7 p.m. *February* 14.—"Mechanisation of Small Jobs," by J. F. Eden, B.Sc., A.M.I.Mech.E. South-East London Technical College, Lewisham Way, S.E.4. 8 p.m. *February* 14.—"Structural Use of Steel in Building," by G. A. Gardner, O.B.E., M.I.Struct.E. Reception Room, Guildhall, Kingston-upon-Hull. 7.15 p.m. *February* 14.—"Introduction to Programming and Progressing for Builders," by A. E. Chittenden, D.F.C., B.Sc., A.M.I.C.E. Civic Centre, Guildhall, Swansea. 7.15 p.m. *February* 15.—"The Building (Safety, Health and Welfare) Regulations, 1948," by S. Jones. Town Hall, Kirkcaldy. 7.15 p.m. *February* 19.—"Essentials of Good Concreting," by E. H. MacMillen, B.Sc.(Eng.), M.I.C.E. Little Theatre, Education-bldgs., Guild-st., Burton-on-Trent. 7.15 p.m. *February* 20.—"Mining Subsidence Problems Affecting Housing Construction," by H. A. Whitaker, M.Eng., A.M.I.C.E. Technical College, Bell-st., Wakefield. 7.15 p.m. *February* 20.—"Some Mechanical Aids Developed for Building," by K. G. H. Fryer, O.B.E., M.I.Mech.E. William Newton School, Junction-rd., Norton, Stockton-on-Tees. 7 p.m. *February* 20.—"Site Investigation," by N. W. B. Clarke, M.Eng., M.I.C.E. Technical College, Manchester-rd., Bolton. 7.15 p.m.

February 20.—"The Building (Safety, Health and Welfare) Regulations, 1948," by A. Gow. West Hall, Christian Institute, Bothwell-st., Glasgow. 7.15 p.m. *February* 21.—"Timber in Building—Factors Affecting its Behaviour and Durability," by R. G. Bateson, M.A. (Oxon). Hereford College of Further Education, Newtown-rd., Hereford. 7 p.m. *February* 21.—"Powered Hand Tools," by A. F. Coare. Technical College, Chatham. 7.15 p.m. *February* 21.—"Some Mechanical Aids Developed for Building," by K. G. H. Fryer, O.B.E., M.I.Mech.E. Technical College, Hopwood-la., Halifax. 7.15 p.m. *February* 22.—"Factors Influencing the Performance of Woodworking Machinery," by P. Harris, B.Sc., A.M.I.Mech.E. Walker Hall Technical College, Abbey Foregate, Shrewsbury. 7 p.m. *February* 22.—"Essentials of Good Concreting," by E. H. MacMillen, B.Sc.(Eng.), M.I.C.E. Lecture Hall, Central Library, Burnley. 7.15 p.m. *February* 22.—"Aluminium Alloys in Building," by E. I. Brimelow, M.Eng. Main Hall, Technical College, St. Georges Gate, Doncaster. 7.15 p.m. *February* 22.—"The Building (Safety, Health and Welfare) Regulations, 1948," by A. Gow. Dick Institute, Kilmarnock. 7.15 p.m. *February* 23.—"Techniques and Devices for Improving Bricklaying Output," by C. S. Thompson, A.M.I.Mech.E. Technical College, The Butts, Coventry. 7 p.m.

February 23.—"Structural Use of Steel in Building," by G. A. Gardner, O.B.E., M.I.Struct.E. James Watt Memorial Institute, Newhall-st., Birmingham. 6 p.m. *February* 26.—"Site Investigation," by N. W. B. Clarke, M.Eng., M.I.C.E. Technical College, Maidstone. 7 p.m. *February* 27.—"Mechanisation of Small Jobs," by J. F. Eden, B.Sc., A.M.I.Mech.E. Central Library, Corporation-st., Chesterfield. 7.15 p.m. *February* 27.—"Maintenance of Builders' Mechanical Plant," by A. Molyneux. Reynolds Hall, College of Technology, Sackville-st., Manchester. 7.15 p.m. *February* 27.—"Economy in Traditional House Building," by N.S. Pippard. College of Art, Canterbury. 7.15 p.m. *February* 28.—"Mechanisation of Small Jobs," by J. F. Eden, B.Sc., A.M.I.Mech.E. Gas Showrooms, Lower Parliament-st., Nottingham. 7.15 p.m. *February* 28.—"Essentials of Good Concreting," by E. H. MacMillen, B.Sc.(Eng.), M.I.C.E. Building Dept., Technical College, Cauldon-pl., Stoke-on-Trent. 7.15 p.m. *February* 28.—"The Building (Safety, Health and Welfare) Regulations, 1948," by A. Gow. Art Gallery, New Town Hall, Hamilton. 7.15 p.m. *February* 28.—"Maintenance of Builders' Mechanical Plant," by A. Molyneux. Heriot Watt College, Edinburgh. 7.15 p.m.

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THE GOVERNMENT CHANGES

Revision of Private Housing Rates Urged

SPEAKING at the annual meeting of the Liverpool Regional Federation of Building Trades Employers, at the Adelphi Hotel, Liverpool, on January 22, Mr. Robert O. Lloyd, O.B.E., President of the National Federation, said that the building industry would have noted with interest the Government changes made last week and the transfer of the responsibility for housing from the Ministry of Health to the Ministry of Local Government and Planning.

"It is to be hoped," said Mr. Lloyd, "that Mr. Dalton, an ex-Chancellor of the Exchequer, will recognise the opportunity of giving added impetus to the housing programme and see his way clear to give greater scope to private enterprise builders by making an early revision of the present 4:1 ratio. It is surely indefensible that the thousands of families all over the country, who would prefer to have their houses built privately, should be forced to go into municipal houses heavily subsidised by rates and taxes."

Restrictive Effect of Development Charges Clauses

ALDERMAN R. W. RICKETTS, vice-president of the F.M.B., speaking at Sheffield on January 23, said that he could only hope that the changes that the Prime Minister had made in the Cabinet did not mean that housing was going to occupy a back seat in the months to come. The provision of good homes for the people was the greatest incentive to high production, and, indeed, the greatest bulwark against Communism.

"Mr. Aneurin Bevan, during his term of office as Minister of Health, has been an inveterate opponent of those builders who erect houses for owner-occupation," continued the speaker. "I can only express the hope that his successor, Mr. Dalton, will come to realise that an extended use of the resources of the private-enterprise builder will not only mean more houses going up more quickly, but also a lowering of the present rate of building costs. Whatever may be said about the combination of the responsibility for housing with those of the Ministry of Town and Country Planning, I feel certain that it will mean that the responsible officials of the new Ministry of Local Government and Planning will see that the Development Charges clauses of the Town and Country Planning Act of 1947 are a serious restriction on the development of new housing estates in this country.

"My other comment on the recent Government reshuffle is that although the Ministries responsible for various building operations have been reduced from three to two, the report of the working party into the building industry, published during 1950, has been ignored, as that report advised the concentration of the responsibility for building into one Ministry."

Sir George Burt Visits Foremen

Members of the Provident Institution of Builders' Foremen and Clerks of Works at a special meeting held on January 17 at the Royal Institute of British Architects, welcomed their Governor, Sir George Burt, when he visited them to invest the president, vice-president, and past-presidents with their new insignia. During the meeting the president presented Sir George with a certificate of life membership of the Institution.

BUILDING WAGES

Notice of Wage Adjustment under Sliding Scale Clause

THE NATIONAL JOINT COUNCIL, at its Statutory Meeting on January 11, reviewed, in accordance with the provisions of Rule 11 (*b*) (i) of its constitution, the wage payments for the time being in force under the National Joint Agreement.

The Council found that the average of the retail prices index figures, published by the Ministry of Labour during the months January to December, 1950, was 113 10/12ths. In the sliding scale this figure corresponds to a Grade "A" standard rate of 2/11 per hour. The existing rate is 2/10½. Therefore an adjustment is due of ½d. per hour increase, and the Council has authorised the publication of its consequent decision. As the result the following new standard rates apply as from February 5 next:

NEW RATES (Per Hour)

	Craftsmen.	*Labourers.*
London (within 12-miles circle) ...	3/0½	2/7
London (12-15 miles)	3/0	2/6½
Grade "A" Districts	2/11	2/5½
Grade "A1" Districts	2/10½	2/5
Grade "A2" Districts	2/10	2/4½
Grade "A3" Districts	2/9½	2/4
Liverpool Special	3/0½	2/7

It is to be noted that this increase in the standard rates of wages will require consequential adjustments in the rates of wages of:—

(i) Apprentices; (ii) Young Labourers; (iii) Women Operatives.

Under the respective agreements the rates for apprentices are a prescribed percentage of the craft rate and those of young labourers are a prescribed proportion of the labourers' rate.

Clause 7 of the Agreement on the Employment of Women requires that their wage-rates be adjusted in accordance with cost-of-living reviews, "the adjustment being in each case equal to that applied to standard craftsmen's rates." Accordingly, women operatives, whether engaged on craft processes or on other processes, will be entitled to the increase of ½d. per hour.

N.J.C. DECISIONS

Annual and Public Holidays: Increases in Values of Weekly Credit Stamps

THE NATIONAL JOINT COUNCIL is advised by the four parties to the Holidays With Pay Agreements (Annual Holidays and Public Holidays) that, following joint negotiations, it has been agreed that on and from March 26, 1951, in the case of public holidays, and April 2, 1951, in the case of annual holidays, there is to be an increase of 3d. per week in the values of the stamps credited weekly to operatives under the agreements, i.e., from 2s. to 2s. 3d. per week for adult workers, and from 1s. 6d. to 1s. 9d. per week for persons (male or female) under 18 years of age.

The consequential adjustments of the relevant sections of National Working Rule 1 entailed by the increases in holiday credits have been considered by the Procedure Committee, and in view of the fact that the values of holiday credits are fixed by agreement between the four parties to the Holidays Agreements and are not variable by way of Constitutional Amendment, they have proposed to the Council (which has endorsed the proposal) that the rule be revised as follows:—

"(h) ANNUAL HOLIDAYS.—On the conditions set out in the annual holidays agreement made between the parties (and with the civil engineering industry), and during the currency of that agreement an 'annual holiday credit' in respect of each operative is due weekly from each employer by the purchase from the management company of holiday stamps of appropriate values, and their affixing to annual holiday cards in respect of each employed operative covered by this wage agreement; and accrued credits are payable to each operative by the management company of the scheme annually (less the fixed administrative charge) at the times specified in, and according to, the terms of the annual holidays agreement. The amounts of weekly credit are fixed by four-party agreement and are not variable by process of amendment under this wage agreement.

"(i) PUBLIC HOLIDAYS.—On the conditions set out in the public holidays agreement made between the parties (and with the civil engineering industry), and during the currency of that agreement, a 'public holidays credit' in respect of each operative is due weekly from each employer by the purchase from the management company of holiday stamps of appropriate value and their affixing to public holidays cards in respect of each employed operative covered by this wage agreement (other than apprentices, except that, in respect of the period immediately after the last public holiday prior to the date of completion of the period of an apprenticeship indenture, a public holidays card shall be provided for the indentured apprentice and that public holiday credit stamps shall be affixed thereto weekly during the remainder of that period). Accrued credits are payable to each such operative by the management company of the scheme, less the appropriate administrative charge, at the times specified in, and according to the terms of, the public holidays agreement. The amounts of weekly credit are fixed by four-party agreement and are not variable by process of amendment under this wage agreement."

Watchmen's Rates Increased

The National Joint Council on January 11 considered a notice from the Operative Adherent Bodies, proposing an increase in the rates of remuneration for watchmen currently specified in National Working Rule 1, and decided to amend the relevant scale in that rule to the following:—

London and Liverpool: 16s. per shift, day or night. Provinces: 14s. per shift, day or night. The decision operates with effect on and from Monday, February 5 next.

Incentive Bonus Payments

The National Joint Council has issued the text of the settlement regarding Incentive Payments and Wage Rates, the provisions of which were given in *The Builder* of December 22.

BUILDERS AND B.I.D.

Builders and Merchants in Liaison in the Southern Counties

THE Southern Counties' Federation has established a Liaison Committee with Building Industry Distributors. At an inaugural meeting on January 19, Mr. E. R. Bowyer, J.P., President of the Southern Counties Federation, was elected chairman. A Builders Merchants' vice-chairman is to be elected, and chairmanship will alternate annually. Mr. S. R. Gerdes and Mr. V. J. Fanstone were appointed joint secretaries.

Matters of mutual interest were discussed frankly, and it was apparent from the reports which were received on this occasion that the cordiality that characterised these proceedings had been experienced also at similar meetings which have been held already in several localities.

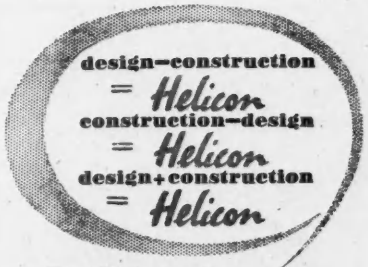
BUILDERS AND FOREMEN

Southern Counties' Joint Committee

ON January 19 there was held the inaugural meeting of the Southern Counties' Committee of Builders and General Foremen and Clerks of Works. So far as the builders' side was concerned, representation covered the Region; and the general foremen (nominated by the Southern Counties Council of Builders' Foremen and Clerks of Works) represented associations of builders' foremen and clerks of works that have been set up in Bucks, Kent, Southampton, Surrey and Sussex.

After it had been decided that chairmanship and vice-chairmanship of the Committee should alternate yearly, Mr. R. W. Whittington (Southampton), junior vice-president elect of the Southern Counties Federation, was elected to the chair. Mr. G. W. Smith (Maidstone) became vice-chairman; and the hon. joint secretaries are Mr. S. R. Gerdes and Mr. A. W. Avery (Ramsgate).

Preliminary discussions confirmed the need for this development, and it was agreed to meet again on March 16 to continue the process by which ways and means may be found of still further enhancing the prestige of the building industry and, in particular, to review educational facilities for foremen in the Southern Counties.



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M-W.40

BUILDING APPRENTICES

1951 Scholarships

APPLICATIONS are now invited for the Welfare Fund Scholarships of the Building Apprenticeship and Training Council. Scholarships will be tenable for three years at a University or Technical College offering a degree or higher diploma course in building science. Candidates for university courses must be at least 17 years old (16 for diploma courses) on March 31, 1951.

Application must be made through, and supported by, the recommendation of the Principal or Head Teacher of the Educational Institution at which the candidate is attending or has attended. The form of recommendation (A.W.15) will be forwarded to the Local Joint Apprenticeship Committee for comments. In the case of part-time building students or ex-students, the form will also be sent to the employer, so that he can add his observations. The closing date for receipt of recommendations is March 31. Written examination will be held on April 17 and 18 in London and provincial centres. Notes for the guidance of Principals and Head Teachers nominating candidates, forms of recommendation, and leaflets setting out the arrangements fully, may be obtained from The Secretary, Building Apprenticeship and Training Council, Lambeth Bridge House, Albert Embankment, London, S.E.1.

Since the inception of the Scholarship Scheme in 1947, 49 scholarships have been awarded. Eleven scholars are now pursuing their studies at universities (one at Manchester University, ten at Cardiff University) and two are at technical schools. Four have completed their studies. Two are doing their military service before taking up scholarships awarded last year. At least five scholarships will be awarded this year.

IMPROVEMENT OF HOUSING ACCOMMODATION

Practice Notes Issued

IN CIRCULAR 4/51, the Ministry of Health refer to Appendix III to Circular 90/49 regarding the Housing Act, 1949, and state that Practice Notes now issued on the subject of housing improvement subsidies have been prepared in the light of the experience gained since the enactment of these provisions. These notes, it is stated, are supplementary notes for guidance in dealing with individual applications and that they do not affect the necessity for complying with the conditions laid down in the Act or the previous circular. It is hoped that they will be of assistance to the local authorities in their administration and in drawing up the programmes of work suggested in that appendix.

To ensure fuel economy where local authorities themselves are carrying out works of improvement or conversion, opportunity should be taken to install heating appliances of the types in the approved list issued as a supplement to Circular 170/48 in place of existing appliances which involve waste of fuel.

R.A.F.A. 1951 Annual

The Royal Air Forces Association has issued the R.A.F.A. Annual, 1951, edited by Raymond J. Blunt. It contains a varied assortment of articles and stories (many of which are highly amusing), written in a style which most ex-airmen and women will no doubt readily appreciate. It is also generously illustrated by photographs, sketches and cartoons.

"BUILDING INDUSTRY MUST HAVE STEEL"

Mr. Lloyd's Views

MR. ROBERT O. LLOYD, O.B.E., President of the National Federation, speaking at the annual meeting of the Eastern Federation of Building Trades Employers at Cambridge, on January 24, said that during 1950, the principal building materials in short supply were timber, bricks and cement. "Now added to the list are steel and plasterboard. The needs of the rearmament programme are, of course, fully realised, but the building industry must have steel if it is to carry on its important work. Moreover, the steel must be forthcoming without having to resort to unorthodox methods to get it, for the industry has always strongly deprecated anything in the nature of black market activities.

"As for plasterboard," added Mr. Lloyd, "the present serious shortage would take some time to overcome and it seemed that the industry would have to wait until the recently started campaign for paper salvage produced the necessary results."

Waste Paper Salvage

As part of the campaign to obtain 1,000,000 tons of waste paper this year, the Waste Paper Recovery Association is now appealing to members of all professional and business associations to see that every shred of unwanted paper on their premises is daily saved and sent for salvage, and that their files are cleared of all unnecessary records. The Association will deal with any queries that arise from this request at their offices at 52 Mount-street, London, W.1.

An International Meeting

The International Federation for Housing and Town Planning are to hold their Council Meeting at High Leigh, Hoddesdon, Hertfordshire, from July 14-19 next. The preliminary programme has been drawn up.

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TRADE NEWS

An Appointment

Howard Farrow, Ltd., announce that Mr. W. G. Harrow has been appointed as from January 1 manager of their Bristol office at Cabot House, Clifton Down-road, Bristol 8.

Firm's Diary for 1951

Messrs. Holland & Hannen and Cubitts, Ltd., 1, Queen Anne's-gate, London, S.W.1, have recently issued a well-produced diary, the first part of which is devoted to photographs of work carried out by the various departments of the firm.

A 5-Ton Arbor Press

The latest accessory for the Hydroram repair kit recently introduced by Chamberlain Industries, Ltd., Staffa-road, Leyton, E.10, consists of a 5-ton hydraulically operated Arbor Press. The standard Hydroram pump and ram unit can be quickly fitted to provide the power source, and it is claimed that the press is suitable for handling all classes of light assembly work covering bending, straightening, clamping and shearing.

B.I.F. to go on

Some Press reports of the statement made by Mr. Barry Kay (the Midland Regional Controller of the Board of Trade) after a recent meeting of the Midland Regional Board, as a result of compression, suggest that the Government is considering cancelling the British Industries Fair. It is therefore desirable to make clear that there is no intention of cancelling the British Industries Fair, which retains its importance in view of the continuing need to maintain United Kingdom exports.

Fluorescent Lighting Fitting

An attractive new "Atlas" fluorescent lighting fitting with a high lumen output has been issued by Thorn Electrical Industries, Ltd. It is available in two forms: a three-lamp unit (GL/3080) and a four-lamp unit (GL/4080). Reeded glass diffusers, combined with 5-ft. 80-watt lamps, provide soft, shadowless light on walls and ceiling, a centre louvre section giving adequate downward light. Windowed end-caps and dispersive panels beneath the lamps reduce end shadows. The finish, satin bronze end frames and white enamel on other metal parts, harmonises with most decorative schemes. Both fittings are available with either quickstart or starter switch control gear. The four-lamp fitting can be arranged for two-circuit control.

Defence Against Corrosion

In view of the widespread and increasing use of chemicals in modern industrial processes, which has given rise in many instances to serious problems of corrosive attack, the industrial division of Semtex, Ltd., (a Dunlop company), of Finchley-road, London, N.W.3, has produced a helpful booklet entitled "New Defences Against Corrosive Attack." It describes some of the materials which are available to counteract corrosion and provides a guide to the conditions they are designed to meet under recommended methods of application. The booklet deals in a general way only with the problems of corrosion in industry and it is pointed out that the selection of the correct materials and their proper usage in each individual case is a matter for the specialist. The firm employs technical staff to advise inquirers seeking information on matters concerning corrosion.

THE SCOTTISH BUILDER

NEW BUILDINGS

Aberdeen.—100 houses on Northfield site, for which the architect is Mr. Alexander B. Gardner, F.R.I.B.A., municipal housing officer, Broad-st., The Castlegate, Aberdeen.

Bellshill.—Shops at the Orbiston housing site, Lawmuir-rd. Architect is Mr. Samuel MacColl, A.R.I.B.A., County-chbrs., Beckford-st., Hamilton.

Dunbartonshire.—Additions to the Yoker factory of Drysdale & Co., Ltd., at Bon-Accord Works, Balldale-st. Architects are John Keppie & Henderson & J. H. Cleaves, F. & A.R.I.B.A., 196, West Regent-st., Blythswood-sq., Glasgow.

Edinburgh.—New medical buildings for the University of Edinburgh at George-sq. Architect is Mr. W. N. W. Ramsay, of Charles J. MacNair, Elder & Ridley, F. & A.R.I.B.A., 529, Sauchiehall-st., Charing Cross, Glasgow, W.C.2.

Elgin.—12 houses at the South College housing site, for which the architect is Mr. G. N. Blane, Municipal-bldgs., Elgin.

Glasgow.—Extension at the Catholic Church, Lourdes-st., for which the architect is Mr. Alexander MacAnnaly, A.R.I.B.A., 50, Byars-rd., Partick, Glasgow, W.C.4.

Inverness.—New primary school at Dalneith. Architect is Mr. Alexander Cullen, O.B.E., F.R.I.B.A., County-bldgs., Inverness.

Lanarkshire.—Shops at The Fortress site on the Abernethy-rd. at Newmains. Architect is Mr. Samuel MacColl, A.R.I.B.A., County-bldgs., Beckford-st., Hamilton.

Lochaber.—New secondary school at Craighead. Architect is Mr. Alexander Cullen, O.B.E., F.R.I.B.A., County-bldgs., Inverness.

Motherwell-Wishaw.—New civic centre at Knowetop. Est. cost, £10,000. Architect is Mr. J. Bisset Smith, F.R.I.B.A., Municipal-bdgs., Main-st., The Cross, Motherwell-Wishaw.

Prestwick.—30 houses at the Newdyke Farm housing site. Architect is Mr. James Smith, F.R.I.B.A., Municipal-bldgs., Prestwick, Ayrshire.

FUTURE CONSTRUCTION

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

JANUARY 31.

***†Breconshire C.C.**—Erection of Secondary School at Ystradgynlais, Swansea Valley. H. C. W. Strickland (F.), County A., Rhyd Offices, Brecon. Dep. £5 5s.

***†Hants C.C.**—Third instalment, Aldershot Manor Park secondary school, County A., Winchester. Dep. £3 3s.

FEBRUARY 2.

Mid-Wales Police Authority.—Conversion of old police houses, Crickhowell. County A., Rhyd Offices, Brecon.

FEBRUARY 3.

***†Essex C.C.**—Two houses for fire brigade officers, New North-rd., Hainault, Ilford. H. Conolly (F.), County A., Chelmsford.

***†Staffs C.C.**—Alterations to premises at Betley C.E. (Controlled) Voluntary Primary School, nr. Crewe. A. C. H. Stillman, Architect & S., County Ed. Committee, Green Hall, Lichfield-rd., Stafford. Dep. £2 2s.

***†Staffs C.C.**—Erection of lavatories at Tipton, Ocken Hill County Sec. Mod. Sch. A. C. H. Stillman. Dep. £2 2s.

***†Staffs C.C.**—Alterations at Mayfield C.C. (Controlled) Voluntary Prim. Sch. nr. Ashbourne, Derbys. A. C. H. Stillman.

FEBRUARY 5.

Cookham (Berks) R.D.C.—20 houses, White Paddock, Woodlands Park, White Waltham. James H. Beevis, A & S., Council Offices, "Oaklands," 1, Bath-rd., Maidenhead. Dep. £2 2s.

***†Folkestone T.C.**—36 flats, Bridge-st. site. B.E. Dep. £3 3s.

***†Folkestone T.C.**—24 flats, Biggins Wood site. B.E. Dep. £3 3s.

***†Great Yarmouth C.B.**—Secondary technical school, Gorleston. F. Jackson (A.), Schools Architect, 15, Regent-st. Dep. £2 2s.

***†Southampton C.B.**—Alterations and war damage repairs, Technical College, St. Mary's Institution. Boro' A. Dep. £2 2s. Tenders by March 14.

FEBRUARY 6.

Cowes, I.W., U.D.C.—58 houses on Beatrice-ave. site, E. Cowes. E. & S., Northwood House, Cowes. Dep. £2 2s.

FEBRUARY 7.

***Glamorganshire C.C.**—Primary school, Hendre, Penryheol, Caerphilly. L. R. Gower (F.), County Hall, Cardiff. Dep. £2 2s.

***†Herefordshire C.C.**—First 2 sections of Leominster County Primary School. Director of Education, County Offices, Hereford. Dep. £2 2s.

FEBRUARY 9.

***Reigate T.C.**—24 houses, Woodhatch estate. B.E. & S. Dep. £2 2s.

FEBRUARY 10.

Cirencester R.D.C.—Eight s.d. houses, Meysey Hampton site. Pyle and Saint, architects. Thomas Street House, Cirencester. Dep. £2 2s.

***†Leeds Regional Hospital Board.**—14 houses at Claypenny Colony, Easingwold. Architect to the Board, 29/31, Eastgate, Leeds, 2. Dep. £2 2s. Tenders by March 5.

***†Overton R.D.C.**—Six houses at Bettisfield. H. Anthony Clark, F. C. Roberts & Partners (F. & A.), 41, Regent-st., Wrexham. Dep. £2 2s.

***†Overton R.D.C.**—Four houses, Tallarn Green, Willington. H. A. Clark, Roberts & Partners, architects, 41, Regent-st., Wrexham. Dep. £2 2s.

FEBRUARY 12.

Bishop's Stortford U.D.C.—Erection of 16 houses and 16 bungalows on the Apton-rd. housing site. E. & S. Dep. £2 2s.

***Durham County Police Authority.**—Four pairs of police houses at 2 sites. County A., Court-la.

***Durham Police Authority.**—One pair of police houses at Roseworth estate, Stockton. County A., Court-la.

***Durham County Police Authority.**—Alterations and additions to form hostel at "Glenholme," Yarm-rd., Stockton. County A., Court-la.

***Gloucester R.D.C.**—16 houses, etc., Quedgeley. Carus-Wilson & Demuth (F. & L.), architects, The Cottage, Green-la., Hardwicke.

***Hoole U.D.C.**—24 houses, Linden-gr. and Hoole House estates. R. Boot, architect, 22, Newgate-st., Chester. Dep. £2 2s.

Manchester T.C.—Reinstatement of war damage and adaptations at Lancastrian day special county school, Dr. Rhode's Home, Didsbury, Manchester. City A., Town Hall. Dep. £1 1s.

***Slough T.C.**—Building materials. E. Gardner, B.E.

***Tipton T.C.**—24 houses, Roberts Field housing site. Housing A. Dep. £2 2s.

***West Riding C.C.**—Improvements, Bretton Hall training college, near Wakefield. County A., Bishopgarth, Westfield-rd., Wakefield. Dep. £1 1s.

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FEBRUARY 13.

***Chadderton U.D.C.**—64 houses at Lower Bare Trees site. F. W. Pexton (L.), Town Hall. Dep. £3 3s.

FEBRUARY 14.

***Southend-on-Sea C.B.**—Additions to Earls Hall school. Architect to E.C. Dep. £2.

FEBRUARY 15.

***Canterbury City.**—18 old people's homes, "The Holt," London-rd. L. Hugh Wilson, City A. Dep. £2 2s.

FEBRUARY 16.

***Billinge and Winstanley U.D.C.**—Ten pairs of houses, Claremont site, Billinge. J. M. Wilson & Son, architects, Midland Bank-bldgs., St. Helens. Dep. £2 2s.

***Bournemouth C.B.**—Pair of houses, Kinson Park-rd., Northbourne. Boro' A. Dep. £2 2s.

FEBRUARY 17.

***Wokingham T.C.**—20 dwellings at Finchampstead-rd. estate. Eric G. V. Hives (L.), 3, Cork-st., Reading. Dep. £2 2s.

FEBRUARY 19.

Guildford T.C.—Construction of a 5,000,000-gallon r.c. service reservoir at Pewley Hill. Acting Water Engineer, Stoke Lodge, London-rd., Guildford. Dep. £2 2s.

FEBRUARY 20.

***Carlton U.D.C.**—28 flats in 7 blocks at Cross-st., scheme 57; 4 flats in 1 block at Simkin-ave. site, scheme 58. E. & S., Council House, Burton-rd. Dep. £2 2s.

***Croydon C.B.**—Additions, etc., old people's home, "Shirley," Pampisford-rd. B.E. Dep. £2 2s.

***Essex C.C.**—Four small houses and four sets of farm buildings, Barnston estate, near Dunmow. County Land Agent, 69, Duke-st., Chelmsford.

FEBRUARY 21.

***Hove T.C.**—28, 24 and 18 flats, St. Helen's estate. T. R. Humble, B.S. Dep. £3 3s. each contract.

***Kendal Boro.**—46 dwellings, Hallgarth estate. J. Barnfather. B.E. & S. Dep. £2 2s.

FEBRUARY 23.

***Lincoln (Lindsey) C.C.**—Modern school, Spilsby. A. R. Clark (A.), County A., Lincoln. Dep. £3 3s.

FEBRUARY 24.

***Wirksworth U.D.C.**—24 houses off Wood-st. J. L. Bakewell (L.), architect, 25, Chapel-st., Belper. Dep. £2 2s.

FEBRUARY 26.

***Carlisle T.C.**—Infants' school at Harraby. City S., 18, Fisher-st. Dep. £2 2s.

FEBRUARY 28.

East Riding of Yorkshire E.C.—Construction to completion of the superstructure, excluding steelwork, of the Hedon/Preston proposed cty. sec. sch. Johnson & Crabtree, F.R.I.B.A., 20, Priory-pl., Doncaster. Dep. £1 1s.

MARCH 1.

***Rochdale C.B.**—Adaptation of Holland-st. mill to form Municipal Technical College. B.S. Dep. £2 2s.

APRIL 16.

Snowy Mountains Hydro-Electric Authority, Australia.—Offers invited for design and construction of the Guthega hydro-electric project. Secretary, Snowy Mountains Hydro-Electric Authority, Box 4900, G.P.O., Sydney, Australia, or 1, Regent-st., Piccadilly, W.1. Dep. £A.1,000.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

FEBRUARY 3.

Ashford (Kent) U.D.C.—S. (Materials).

FEBRUARY 5.

Hornchurch U.D.C.—E. & S. (Materials).
Keighley B.C.—B.E. & S. (Materials).

FEBRUARY 8.

Chertsey U.D.C.—C. (Materials).

FEBRUARY 9.

Bristol T.C.—City E. & S. (Materials).
Chislehurst and Sidcup U.D.C. — E. & S. (Materials).

FEBRUARY 10.

Accrington B.C.—E. & S. (Materials).
Whitworth U.D.C.—E. & S. (Materials).
Wimbledon B.C.—E. & S. (Materials).

FEBRUARY 12.

Broadstairs and St. Peter's U.D.C.—E. & S. (Materials).
Eastbourne C.B.—B.E. (Materials).
Scunthorpe B.C.—B.E. & S. (Materials).
Slough B.C.—E. (Materials).
Southend-on-Sea C.B.—E. (Materials).

FEBRUARY 14.

***Gillingham T.C.**—Building materials, etc. B.E. & S.
†Heywood B.C.—B.S. (Materials).

FEBRUARY 15.

Stoke-on-Trent Corpn.—S. (Materials).
Swadlincote U.D.C.—E. & S. (Materials).

FEBRUARY 17.

Oldbury B.C.—B.E. & S. (Materials).

FEBRUARY 19.

Barnsley C.B.—E. & S. (Materials).
Canterbury T.C.—City E. & S. (Materials).

FEBRUARY 24.

Caernarvonshire C.C.—County S. (Materials).
Exmouth U.D.C.—E. & S. (Materials).
Turton U.D.C.—E. & S. (Materials).

MARCH 9.

Newcastle-under-Lyme B.C.—C. (Materials).

ROADS, SEWERAGE AND WATER WORKS

JANUARY 31.

***East Retford T.C.**—Pumping station, Whisker Hills waterworks. B.E. Dep. £2 2s.

GENERAL BUILDING WORK

(LONDON)

Bermondsey.—FACTORY.—B.C. have raised no objection to application of R. B. James & Partners, surveyors, 13, Northwold-rd., N.16, for the erection of factory building on land adjoining No. 54, Bermondsey-st.

Bermondsey. — REBUILDING. — Matthews & Son, F. & A.R.I.B.A., 91, Gowers-st., W.C.1, have made application for the rebuilding of block C, 206, Long-la. as a warehouse for stationery.

Croydon.—WORKSHOP.—Coastal Cycle Co., Ltd., 69, London-rd., West Croydon, have had plans approved by B.C. for the erection of a workshop at London-rd.

Croydon.—ADDITIONS TO FACTORY.—B.C. have approved plans for additions to factory at Thornton-rd. for H. J. Enthoven & Sons, Ltd., 89, Upper Thames-st., London, E.C.4.

Croydon.—REBUILDING FACTORY.—The executors of late W. R. Platten Trust, Cresswell-rd., South Norwood, S.E.25, have had plans approved by B.C. for rebuilding factory at Albert-rd.

Croydon. — EXTENSION TO OFFICES. — B.C. has approved plans for extensions to offices of J. G. Cronk (Streatham), Ltd., 407, Brighton-rd., South Croydon.

Hammersmith. — REBUILDING. — Sydney Tatchell, Son & Partners, FF.R.I.B.A., Clifford's Inn, Fleet-st., E.C.4, have applied to rebuild No. 10, Shepherds Bush-rd., W.6, and for the use of ground first and second floors as offices and third floor as residential flat.

Hammersmith.—BUILDING.—Sir John Burnet Tait & Partners, FF. & A.R.I.B.A., 10, Bedford-sq., W.C.1, have made applications to erect two brick buildings to house water-softening plant; one at the Royal Masonic Hospital Nurses' Home, Ravenscourt-gdns., W.6, and the other at the Royal Masonic Hospital, Ravenscourt Park, W.6.

Hornchurch.—HOUSES.—G. W. Shuard, A.R.I.B.A., 62b, Sydenham-rd., Sydenham, S.E.26, is the architect for 40 houses at River-dr., Upminster.

Islington.—HOUSES.—B.C. seeks loan of £51,103 for houses to be erected at Highbury Grange.

Wandsworth.—FLATS AND SCHOOL.—Mr. Harold Bailey, F.R.I.B.A., M.I.Struct.E., 31a, John Adam-st., W.C.2, is the architect for 68 flats and nursery school forming the first phase of development of the Clapham-cres. housing site.

Wandsworth.—SHOPS AND FLATS.—Housing comm. have approved sketch plans prepared by the Boro' A. for the erection of a three-storey block providing 11 shops and 22 flats on the Balham High-rd. frontage of the Rinaldo-st. scheme.

Wandsworth.—SHOPS AND FLATS.—Boro' A. to prepare plans for a block of shops with flats over to be erected early in 1952 along the Clapham Park-rd. frontage of the proposed St. Alphonsus-rd. scheme.

Wandsworth.—HOUSING.—B.C. propose to acquire and develop for permanent housing purposes the sites of Nos. 26-36, Danemere-st. Boro' A. reports that a terrace of four houses would be suitable for site.

(PROVINCIAL)

Alnwick.—Northumberland Ed. Com. is to build an infants' school. W. W. Tasker, Cty. A., Cty. Hall, Newcastle.

Aycliffe (Co. Durham).—Extensions are to be made to approved school. Architects, S. W. Milburn & Partners, 9, Esplanade, Sunderland.

Barrow-in-Furness.—A power station is to be built near Barrow-in-Furness. Plans by L. J. Couves & Partners, Carliol House, Newcastle-upon-Tyne.

Bath.—A. J. Taylor & Partners, have been requested to prepare an outline scheme for additional accommodation at central fire and ambulance stn.

Birkenhead.—Boro' A. to prepare plans for new premises for Weights and Measures Dept., at Springhill Waterworks.—B.C. approved plans for:—Extension to Slumberwear factory at Woodchurch-rd., for C.W.S., Ltd.—Conversion of Queen's Hall Cinema as a dance-hall, for Duncan Entertainments, Ltd.—Rebuilding of factory at Taylor-st., for O. O'Malley.—Hotel at Arrowe Park-rd., for Yates Castle Brewery Co., Ltd, Architects, Rees & Holt, Liverpool.

Brighouse.—B.E. to negotiate with Brighouse Master Builders' Assn. for erection of houses at Stoney-la. and Cain-la.

Brighouse.—B.E. to negotiate with J. Jagger & Sons, Ltd., and Rowland Lumb & Co., for erection of houses at Stoney-la. and Cain-la.

Burnley.—B.C. approved plans for furnace house at Rosegrove Iron Works, for Harling & Todd, Ltd.—Rinstatement of weaving shed at Byerden Mill, for Richard Stuttard, Ltd.—M.E. approved preliminary plans for Heasanford Cty. Tech. High Sch. (£217,000). Architects, Kitson Parish, Ledgard & Pyman, Lloyds Bank-chbrs., Vicar-la., Leeds.

Carlisle.—T.C. recommended to approve plans for a workshop and hostel for blind, at Petteril Bank, at £31,436. Plans by R. Wright, 13, Castle-st., Carlisle.

Cheadle.—R.D.C. propose 12 houses at Well-st.

Cheltenham.—B.C. propose to erect 400 flats for Foreign Office.

Cheltenham.—B.C. has approved plans for additions to printing works of Norman Bros., Ltd., at 10-11, Bennington-st.

Cheltenham.—B.C. approved of C. Armand's plans to build a confectionery factory.

Chester.—C.C. seek loan of £123,076 for 108 houses at Blacon.

Chester.—H. & J. Quick, Ltd., propose to build motor showrooms and workshops at Chester-rd. and Warwick-rd. North.

Chester.—F. Yeadon & Taylor, Ltd., propose to build machine shop at Cornbrook Park-rd.

Chesterfield.—M.W. propose large new offices between Hawksley-av. and Brockwell-la., for Post Office Savings Bank.

Coventry.—T.C. seeks loans for:—44 additional houses at Tile Hill Neighbourhood Unit (Southern Section), £46,414; 12 flats at Holyhead-rd., £15,281; 1,049 houses and laying-out open spaces at Tile Hill Neighbourhood Unit (Northern Section); additional council offices at Earl-st., £189,026; houses at Monks-pk. and Canley estates (additional cost), £49,960.

Darlington.—Site of over nine acres adjoining Salters-la. has been allocated to E.C. for proposed prim. sch.

Daventry.—R.D.C. propose 20 houses at Byfield, 10 at Staverton, and 22 at Weedon in 1951 programme.

Dewsbury.—B.C. propose hostel for aged and infirm at Ossett-la., Chickenly.

Felling (Co. Durham).—Newcastle Breweries, Ltd., Haymarket, Newcastle-on-Tyne, propose erection of public-house at Chilside-rd.

Golborne.—U.D.C. to approve erection of an explosives factory at former M.O.S. Storage Depot at Glazebury, for I.C.I., Ltd.

Hartford (Northumberland).—Northern Coal Board, Newcastle-on-Tyne, are to modernise about 400 colliery houses at Hartford.

Ilkeston.—B.S. to prepare plans, engage quantity surveyors and invite tenders for 86 houses at Kirk Hallam estate (Scheme 15).

Ilkley.—U.D.C. propose 10 houses and four aged persons' dwellings at Menston estate.

Keswick.—U.D.C. Surveyor to prepare plans for 10 houses, Windebrowe-av. estate.

Leigh.—Proposed new casualty and out-patients' dept. at the Infirmary has been added to the Manchester Reg. Hospital Brd.'s 1951 programme. Architect to Brd., T. Duffy.

Littleborough.—U.D.C. preparing plans for further houses at Lanehead.

Liverpool.—C.C. seeks loans for:—Erection of 228 houses at Croxteth estate, £334,300; 296 houses at Speke estate, £451,000; 30 flats at Virgil-st., £47,880.

Macclesfield.—T.C. approved erection of 46 houses, four maisonettes with shops, and 30 flats in scheme 5 at Ivy-rd. estate, and 72 houses in scheme 6 at Ivy-rd. estate. E. A. Hepponstall, Boro' A.

Middlesbrough.—Layout scheme for 2nd stage of development plan for Berwick Hills estate has been amended to include 7½ acres for a proposed sch. The 3rd stage of scheme will include 660 houses, with sites for eight shops, nursery sch., children's home, public-house, church, playground, garages, etc.—T.C. to negotiate a tender with Middlesbrough and District Building Trades' Association for a further 64 houses at Berwick Hills.—M.H. has approved a price negotiated with the Association for one batch of 64 houses, and work will begin soon.

Middlesbrough.—E.C. to build a cty. prim. sch. at Mill Hill Farm, Green-la., and a cty. sec. sch., at Keld House Farm.

Middlesbrough.—Garbutt, Archibald & Archibald, 23, Albert-rd., Middlesbrough, have been appointed architects by Newcastle Reg. Hospital Brd., for converting premises at Middlesbrough Gen. Hospital into casualty dept. Quantity surveyors, Barrett, Sons & Partners, 127, New Bridge-st., Newcastle-on-Tyne.

Milnrow.—U.D.C. propose erection early this year of 50 flats at Firgrove estate.

Newcastle-on-Tyne.—J. T. Bell & Sons, builders, Northumberland-pl., Newcastle-on-Tyne, have come to an arrangement with the City Housing Com. to build 500 houses and a shopping centre on West Denton estate. It is proposed to start immediately on first 200 houses.

Newcastle-on-Tyne.—Alterations are to be made at premises of Joint Pricing Co., 38, Northumberland-st. Architect, C. Solomon, St. Mary's-pl., Newcastle.

Newcastle-on-Tyne.—Housing Com. is recommending T.C. to approve an offer by J. T. Bell & Sons, Ltd., Northumberland-pl., Newcastle-on-Tyne, to construct a new housing estate on a site of 42 acres at West Denton. Proposals include 436 houses, 88 flats, 24 bungalows, and 12 shops with 24 flats above.

Newcastle-on-Tyne.—T.C. is making arrangements for erection of 800 houses on various sites. City A., G. Kenyon, 18, Cloth-market, Newcastle.—T.C. is to appropriate 5½ acres near Moor-la., Kenton, for housing purposes.

Newcastle-on-Tyne.—Long-term plans of Newcastle-on-Tyne Reg. Hospital Brd., Osborne-rd., Newcastle, include a hospital at Peterlee; a sanatorium near Durham; a hospital in West Cumberland; a hospital near Bedlington; mental hospital near Darlington; sanatorium near Newcastle; and a sanatorium near Carlisle. In addition, extensions are proposed to general hospitals in the Board's area.

Newcastle-on-Tyne.—E.C. to convert premises in Middle-st. and Langley-rd. into a dental clinic. Plans by City A. (Education Section), 18, Cloth-market, Newcastle.—Simpson & Lawson, Emerson-chbrs., Newcastle-on-Tyne, are architects for proposed public-house in Maling-st.—Newcombe & Newcombe, 23, Eldon-sq., Newcastle, are architects for proposed alterations for staff quarters in Burdon-ter., for Newcastle Church High Sch.—Page, Son & Hill, 75, King-st., South Shields, have prepared plans for shop fronts in Percy-st., for A. J. Wares, Ltd., South Shields builders' merchants.

Northampton.—B.C. received approval for old persons' residential block at King's Heath, at £45,000.

Northampton.—R.D.C. propose 20 houses at Hackleton, 10 at Duston, 10 at Nether Heyford.

Northumberland.—C.C. to add farm and other buildings to agricultural college at Kirkley Hall at £12,000. Plans by Cty. A., W. W. Tasker, Cty. Hall, Newcastle.

Northwich.—U.D.C. propose placing following contracts for houses in 1951 as follows:—W. E. Jones, Lewin-st., Middlewich (65); J. B. Kemp, 54, The Downs, Altrincham (27); J. H. Molyneux, Ltd., Witton-st., Northwich (8).

Notts.—E.C. received starting dates for schools as follows:—March—Adaptations to Mowland Sch., Kirby-in-Ashfield; May—Erection of Stafford-st. Sch., Mansfield; June—Erection of Greenwood-dr. Sch., Kirby-in-Ashfield. E. W. Roberts, Cty. A., Nottingham.

Oldham.—B.C. propose erection of new health offices at West-st., at £112,000.

Rochdale.—E.C. received starting date (April 1) for conversion of Holland Mill as a tech. sch., at £40,000.

St. Helens.—Tenders will be invited shortly for a power station at Bold. Architects, L. J. Couves & Partners, Carliol House, Newcastle-upon-Tyne.

Salford.—T.C. appointed Bradshaw, Gass & Hope, 19, Silverwell-st., Bolton, as architects for proposed new police H.Q. at The Crescent.

Salford.—C.C. seek loan of £115,650 for erection of 12 flats at the corner of Ecoles New-rd. and Stott-la., and 66 flats at Islington-st.

Salford.—Ed. Com. to borrow £80,806 for erection of C. of E. Prim. (Controlled) Sch., at Duke-st.

Stockport.—B.C. approved plans for:—Extensions to machine shop, builders' and joiners' workshops at Regent-rd., for E. D. Maddocks.—Evangelical Church at Longshut-la., for Elim Pentecostal Church.—Alterations to warehouse at Millgate, for Cornbrook Chemical Co., Ltd.—Extensions to engineering works at Bramhall-la., for Mirrlees, Bickerton & Day, Ltd.

Reconstruction and extension to loading bays at Green-la., for Bennett's Ironfoundry Co., Ltd.—Factory at Haigh-st., for Stockport Tool & Steel Co., Ltd.—Conversion of "Princes Cinema," Princes-st., as a retail shop, dance-hall, and restaurant, for Montague Burton, Ltd., Leeds.—Licensed premises ("Heaton Moor Hotel") at Heaton Moor-rd. ("White Bear Hotel"), Marple-rd., for Walker & Homfrays, Ltd.—Licensed premises at Longford-rd., for Gartsides Brewery Co., Ltd.—Extensions to railway wagon repair shop at British Railway Sidings, for Standard Railway Wagon Co.

Stockton-on-Tees.—Boro' A. (T. C. Hartley), 28, The Square, Stockton, has prepared plans for inf. and jun. schools on the Roseworth estate and inf. school in Oxbridge-la.

Stretford.—B.C. approved plans for motor showrooms and workshops, for H. & J. Quick, Ltd., at Chester-rd. and Warwick-rd. North.

Stretford.—Plans for machine shop, for F. Yeadon & Taylor, Ltd., have been approved by B.C.

Sunderland.—Plans have been prepared by S. W. Milburn & Partners, 9, Esplanade, Sunderland, for alterations to Hinds Bridge Mills, Hind-st.

Sutton Coldfield.—B.C. to prepare plans for a block of flats at Carhampton-rd., also 10 shops at Falcon Lodge estate.

Tynemouth.—T.C. intends building 1,470 houses to meet slum clearance needs. Boro' E., D. M. O'Herlihy, 16, Northumberland-sq., North Shields.

Wallsend.—T.C. has obtained sanction to borrow £63,826 for 54 houses at Low Willington (J. H. James, builder, Wallsend) and 20 houses at Low Willington (J. Armstrong, builder, Wallsend), R. Burke, Lambton-rd., Jesmond, Newcastle-on-Tyne, is preparing working drawings and estimates for proposed extensions to Wallsend Civic Hall, at £10,000.—South-East Northumberland Hospital Management Com. propose alterations to Sir G. B. Hunter Memorial Hospital, Wallsend.

West Lancs.—R.D.C. approved issue of licence to R.C. Authorities for erection of a church and presbytery at Hesketh-la., Tarleton.

Whitby.—R.D.C. has approved layout plans for houses at Middlewood-la., Fylingthorpe. Surveyor, H. D. Stanworth.

Wigan.—E.C. seek loan of £202,500 for Sec. Tech. Sch. at Rectory Glebe.

Wores.—C.C. propose new central block at the old people's home, "Laburnum House," Upton-on-Severn, at £41,000 (1951 programme).

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H. M. Government Departments*.

Abingdon.—Erection of 8 houses at Cumnor, Oxford, for R.D.C. *A. J. Robey, £11,588.

Alnwick.—Converston of "Hill Crest" into maternity unit, for Newcastle-on-Tyne Regional Hospital Board. P. H. Knighton, M.B.E., A.R.I.B.A., Board's Chief Architect, "Dunira," Osborne-rd., Newcastle: *R. & G. Brown, Ltd., Amble, £5,462 (subject to M.H. approval).

Blackpool.—Erection of Arnold High School, for B.C.: *R. Fielding & Son, Ltd., Stanhope-rd. Works, Blackpool, £131,356.

Brighouse.—Erection of 14 houses at Stoney-la. estate. *Hare and Lister, £18,469.

Burnley.—16 flats at Brunshaw estate, for B.C.: *Wm. Thornton & Sons, Ltd., 38, Wellington-st., Liverpool, £14,941. Wholesale fruit and vegetable warehouse at The Market: *Direct Labour, £5,362.

Carlisle.—Cubicling of Ward 1, Isolation Block, Cumberland Infirmary. Architect and quantities, S. L. Jack, L.R.I.B.A., M.Inst.R.A.: †John Lang & Sons, Ltd., Dalston-rd., Carlisle, £2,992 (Subject to M.O.H. approval.)

Carlisle.—Alterations and adaptations to admin. block, City General Hospital. P. H. Knighton, M.B.E., A.R.I.B.A., architect to the Newcastle-on-Tyne Reg. Hospital Board. Quantities by J. Telford Hart, A.R.I.C.S.: †John Lang & Son, Ltd., Dalston-rd., Carlisle, £17,146. (Subject to M.O.H. approval.)

Carlisle.—Improvements to the main building of the City General Hospital, for the Newcastle-on-Tyne Reg. Hospital Board. P. H. Knighton, M.B.E., A.R.I.B.A., architect to the Board. Quantities by J. Telford Hart, A.R.I.C.S.: †John Lang & Sons, Ltd., Dalston-rd., Carlisle, £2,999. (Subject to M.O.H. approval.)

Chester.—Erection of further 32 houses. *Thomas Warrington & Sons, Ltd., £36,527. (Subject to M.O.H. approval.)

Chester.—20 flats at Sandy-la. *Humphrey Park Estates, Ltd., £22,002.

Croydon.—B.C. to erect 18 flats and 2 houses. *R. H. Lynn & Co., Ltd., Copthall House, Copthall-ave., London, E.C.2, £44,280. (Subject to M.O.H. approval.)

Darlington.—Ten houses for R.D.C. *J. W. Richardson & Sons, Ltd., Quebec-st., Darlington, £14,700.

Darlington.—10 houses at Sadberge, for R.D.C. J. F. Sweeten, architect, 43, Geneva-rd., Darlington: *J. W. Richardson & Sons, Quebec-st., Darlington.

Derby.—Extensions to St. Dunstan's infants' school, Osmaston-rd, T. W. East (F.), Boro' A.: *R. A. Wheeldon, Slack-la., Brailsford, Derby, £4,629.

Droitwich.—12 bungalows, for T.C.: *George Bourne, Ltd., Droitwich, £12,285.

Dudley.—165 houses at Sledmere estate, No. 1, for C.B. Webb & Gray, chartered architects, Tixall House, St. James's-rd., Dudley. Quantities by Oswald A. Wainwright, chartered quantity surveyor, Union-chbrs., 63, Temple-row, Birmingham: *J. M. Tate & Sons, Ltd., Highfield-rd., Cradley, Staffs. £212,955.

Durham.—Erection of the Spennymoor New Grammar Technical School, for C.C. G. R. Clayton, County A., Court-la., Durham: *Wright & Kellett, Ltd., Chester-le-Street, £226,620 (subject to M.E. approval).

Failsworth.—Houses at Bardsley Fold estate, for U.D.C.: *H. Massey, 276, Moston-la., Failsworth, £9,887 (8); *J. W. Swindells & Sons, Ltd., Arden Sawmills, New Mills, Derbys, £12,305 (10).

Glamorganshire.—School, Litchard-ter., Bridgend, for C.C. Gordon H. Griffiths, F.R.I.B.A., in collaboration with L. R. Gower, F.R.I.B.A., County A., Cardiff. Quantities by C. J. Ward, F.R.I.C.S., & Partner: *General Constructions (Cardiff), Ltd., Coychurch-rd., Bridgend.

Glasgow.—Extensions at The Galowgate, for W. & J. Jacobs & Co., Liverpool, biscuit manufacturers. John Keppie & Henderson & J. H. Cleaves, F. & A.R.I.B.A., architects, 196, West Regent-st., Blythswood-sq., Glasgow, W.C.2: *Thomas Cooper & Co. (Builders), Ltd., Dobbies Loan.

Greenock.—Houses at the Larkfield housing site. Mr. Robert L. Rankine, A.M.Inst.C.E., A.M.T.P.I., architect, Old Harbour Offices, Wallace-sq., Greenock. Excavation, concrete, mason and brick works, *Dongall & Co., Ltd., Dunbarton, £36,386; carpentry and joinery works, *Ian MacCallum, Lochgailhead, £15,180; plumber, sanitary engineering and gas fitting works, *John Pattison & Son, Paisley, £9,786.

Halesowen.—Houses and flats, for T.C., at Kent-rd., Cakemore: *J. M. Tate & Sons, 25, Highfield-rd., Cradley, £65,488;18 flats at Fatherless Barn estate: *Shaw Bros., 6, Park-la., Cradley Heath, £24,838; two houses at Church-la., Colley site: *F. Tildesley & Sons, Ltd., Olive-la., Blackheath, £3,000.

Hornchurch.—Erection of 32 houses at Dovers Farm estate: *T. J. Barrett, Ltd., £40,321.

Leeds.—Conversion of White Hart Hotel to hospital, for Reg. Hospital Board: *W. G. Birch (Harrogate), Ltd., Springfield-av., Harrogate. Architects, Taylor, Bowen & Partners, 8, Victoria-av., Harrogate.

Liverpool.—12 flats at Westbourne-st. and Gregson-st.: *C. J. Doyle & Sons, Ltd., Cathedral Site, Mount Pleasant, Liverpool 3, £19,000. Plans by City A. (subject to M.H. approval).

Liverpool.—Erection of six shops, four houses, eight flats and 10 garages at Western-av., six shops, four houses, eight flats and 10 garages at junction of Eastern-av. and Hale-dr. on the Speke estate. Plans by City A.: *Unit Construction Co., Ltd., £67,966 (subject to M.H. approval).

Liverpool.—170 houses, for C.C. Plans by City Architect's Dept.: *Unit Construction Co., Ltd., Bentham-dr., Broadgreen, Liverpool 16, £217,150 (subject to M.H. approval).

Liverpool.—54 flats at Horrocks-av., for C.C. Plans by City Architect's Dept.: *Hibberts (Builders), Ltd., 103, Rockbank-rd. (subject to M.H. approval).

Liverpool.—78 flats at Smithdown-la., for C.C. Plans by City Architect's Dept.: *Albert Bros., Ltd., 29, Tynwald-hill, Liverpool 13, £128,073 (subject to M.H. approval).

Liverpool.—Eight houses and 31 garages, for C.C. Plans by City Architect's Dept.: *Frank Gatley, Ltd., Mayfield, Southport-rd., Lydiate, Lancs. £19,347 (subject to M.H. approval).

¶London (Admiralty).—*Fareham* (*Hants*): Reglazing of workshops, Way & Son (Southsea), 55, Grosvenor-st., Southsea, Hants. *Sheerness:* Asphalting of concrete roofs, General Asphalte Co., Ltd., Hope House, 41-49, Great Peter-st, London, S.W.1. *Greenock:* Painting work, R. McCartney (Painters), Ltd., 116, Blythswood-st., Glasgow, C.2.

¶London (M.O.W.).—Contracts placed by M.O.W. during week ended January 13:—

London: Ministry of Pensions, Sanctuary-bldgs., Gt. Smith-st., S.W.1, Internal painting, etc., C. & T. Painters, Ltd., Mordaunt-rd., N.W.1. Regent's Park Estate, Internal decorations and painting, Sykes & Son, Ltd., 8, Essex-st., Strand, W.C.2. Shoot-up Hill, Willesden, Erection of north-western telephone manager's office, Richard Costain, Ltd., Dolphin-sq., S.W.1. Royal Mint, Tower Hill, E.C., Alterations to canteen kitchen, Galbraith Bros., Ltd., 34, High Holborn, W.C.1. Victoria and Albert Museum, S.W.7, Repairs to screens and decorations, John Mowlem & Co., Ltd., 91, Ebury Bridge-rd., S.W.1.

Lanarkshire.—Employment Exchange & M.N.I., Strathaven, Erection, M. Simpson & Co., Ltd., 62, Vicarfield-rd., Glasgow. Bellshill Employment Exchange, Erection, Hugh B. Kerr & Son, Ltd., Station-rd., Blantyre. *Lancashire*: Moss Side Hospital, Maghull, Liverpool, Internal decorations, C. A. Critchley (St. Helens), Ltd., 92, Church-st., St. Helens. *Lincolnshire*: Telephone Exchange, Cleethorpes, Extension, S. Cartledge & Son, Ltd., 507, Wellsby-st., Grimsby. *Middlesex*: Branch P.O., 267, Preston-rd., Wembley, Alterations and additions, E. J. Lacy & Co., Ltd., 344a, High-rd., Willesden, N.W.10. *Somersetshire*: Werle Sec. Mod. School, Weston-super-Mare, Erection of temporary school building, K. Warne, Ltd., 673a, Fishponds-rd., Bristol. Ealing Sub-District Office, Alterations and additions, A. Roberts, Ltd., 79, Eccleston-sq., S.W.1.

¶London (War Dept.).—Contracts placed by War Dept. during week ended January 13:—

Lancashire: Miscellaneous, R. S. Ainscough, Ltd., Oldham. *Monmouthshire*: Miscellaneous, A. Watkins & Sons, Chepstow. *Cheshire*: Building, Geo. Moss & Sons, Ltd., Leigh, Lancs. *Warwickshire*: Bridging preservation plant building, John Bowen & Sons, Ltd., Birmingham.

Pembrokeshire: Building, Thomas & George, Llechryd, Cards. *Oxfordshire*: Miscellaneous, O. J. Elliott & Co., Ltd., Bristol. *Kent*: Painting, N. S. Long, Ltd., Poulton-le-Fylde, Lancs. *Co. Antrim*: Building, McKinney & Co., Ltd., Tandragee, Armagh.

Macclesfield.—Houses for T.C. at Ivy-rd. estate: *H. Rochford, Ltd., Gawsworth, Macclesfield, £20,149 (18); *H. Bamford, Ltd., 1, Fairfield-av., Bollington, £10,406 (8).

Middlesbrough.—Eight police houses at Berwick Hills, for T.C. J. A. Kenyon, B.E.: *J. Gilmore & Son, Middlesbrough, £9,462 (subject to Home Office approval).

Middlesbrough.—78 houses, Berwick Hills site, for T.C. J. A. Kenyon, B.E.: *G. Wade, Ltd., Redcar (20); *J. Cresswell & Son, Ltd., Middlesbrough (40); and *J. Gilmore & Son, Middlesbrough (18).

Newcastle-on-Tyne.—Workshop and offices, St. Lawrence-rd., for Nicholson Tool Co., Ltd.: *Alnwick Construction & Engineering Co., Ltd., Alnwick, Northumberland.

Newcastle-upon-Tyne. — Erection of additional cubicles at Walkergate Hospital, Newcastle-upon-Tyne. Architects, L. J. Couves & Partners, Carliol House, Newcastle. *P. Clements & Sons, Selbornegdns., Newcastle. Est. cost, £6,000.

Newton Aycliffe.—Houses and flats for the Aycliffe Development Corporation. G. A. Goldstraw, Chief Architect. 60 houses, 12 flats and 26 garages: *Bell & Ridley, 79, North-rd., Durham; 34 houses: *Shepherd & Son, Ltd., Blue Bridge-la., York; 16 houses: *Direct Labour.

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Pickering.—15 houses at Westgate, for U.D.C.: *J. B. (Scarborough), Ltd., Scarborough, £17,682.

Richmond (Yorks).—Six houses at Skeeby, for R.D.C.: *E. Black & Sons, Valley-st. North, Darlington.

Rowley Regis.—Houses for T.C. at St. Giles-av., *Cutler Bros., Rowley Regis, £10,604 (8); *J. Harris & Son, 159, New John-st., Blackheath, £5,212 (4); 14 at Brickhouse Farm estate: *Direct Labour, £17,428.

Rugby.—31 houses at Woolston, for R.D.C.: *G. W. Deeley, 27, Avon-st., Coventry, £46,584.

Salford.—81 maisonettes and 12 flats at Salford Brow, for Salford Housing Assoc., Ltd.: *Normantons, Ltd., 167, Plymouth-gr., Manchester, £161,319.

Salford.—Erection of 12 flats at the corner of Eccles New-rd. and Stott-la., and 66 flats at Islington-st. *Unit Construction Co., Ltd., £113,350.

Sleaford.—32 houses at Galley Hill estate, for U.D.C.: *Drury & Co., Ltd., Windmill-av., Kettering, £36,240

Stafford.—Erection of St. Patrick's R.C. Church: *Sandy & Co., Stafford.

Stockton-on-Tees.—Erection of shops in Bishopton-la., for Stockton Co-op. Society, Ltd., Wellington-st., Stockton: *Society's Building Dept.

Stone.—Four flats, 7 shops, 2 houses and 7 lock-up garages at Barlaston, for R.D.C.: *Horace Poole, Ltd., Stone, £28,257.

Stretford.—20 flats at Sandy-la. estate, for B.C.: *Humphrey Park Estates, Ltd., Humphrey-la., Urmston, £22,002.

Stroud.—Ten houses at the Devereaux housing estate, Ebley, for U.D.C. F. Foster Langley, E. & S.: *Wheatley Rogers and Smith Ltd.,, The Green, Stonehouse, £11,644.

Sunderland.—Erection of oxygen house at South Docks: *J. Carter & Son, Ltd., Deptford-ter., Sunderland.

Sunderland.—Converting Rock Lodge, Roker, into training centre for County Durham Territorial & Auxiliary Forces Assoc., 53, Old Elvet, Durham. Architects, S. W. Milburn & Partners, 9, Esplanade, Sunderland: *R. Hudson & Sons, St. Mark's-cres., Sunderland.

Wallsend.—Erection of a refraction dept. for the Thermal Syndicate, Ltd., Wallsend. Plans by L. J. Couves & Partners, Carliol House, Newcastle. *J. K. Rutherford & Sons, Dene Joinery Works, Newcastle-upon-Tyne. Est. cost., £35,000.

Walsall.—16 maisonettes in Green-la., for T.C. M. E. Habershon, B.E. & S., Council House, Walsall. Quantities by Collins & Britten, Birmingham: *Lock & Downes, Ltd., Aldridge, Staffs., £30,173.

Wandsworth.—Eight aged people's dwellings at rear of 126, Upper Tooting-rd.:—

Hoad & Son, Ltd., North Wembley	£11,130
J. Jenkins, Ltd., S.W.16	10,877
Clarke Barton & Co., Ltd., Belmont	10,788
Orchard & Peer (London), Ltd., S.W.12	10,166
Woodcock Bros. (Wimbledon), Ltd., S.W.19	10,143
James Webb & Son (Builders), Ltd., E.C.1	9,983
James Pavey, Ltd., S.W.12	9,969
J. T. Keen & Sons, Ltd., S.W.16	9,846
Soar & Co., Ltd., S.E.16	9,725
J. A. Proctor, Ltd., S.E.18	9,626
Amalgamated Building Contractors, Ltd., S.W.8	9,576
*Westminster & Country Estates, Ltd., Wandsworth, S.W.18	9,000

Washington (Co. Durham).—18 houses, for U.D.C.: *J. Robson & Co., Springwell, Gateshead 9.

Woking.—12 dwellings for old people at Maybury estate for U.D.C. H. P. Tame, A.M.I.C.E., M.T.P.I., E. & S., Council Offices. Quantities by John McBain & Partners.

Mr. S. H. Cook, St. Johns	£20,500
A. W. Middleton & Co., Woking	16,940
Drinkwater & Partners, Feltham	15,366
Francis Jackson Contractors, Ltd., Ickenham	14,402
Burbidge Builders, Ltd., East Horsley	14,110
The Godalming Building and Construction Co., Ltd., Godalming	13,286
Mr. G. Lovelad, Woking	12,995
E. P. Wickens & Sons, Ltd., Addlestone	12,982
M. Beasley & Sons, Staines	12,699
Thomas Higgs & Co., Ltd., Woking	12,674
*A. and J. Simmons, Ltd., Woking	11,956

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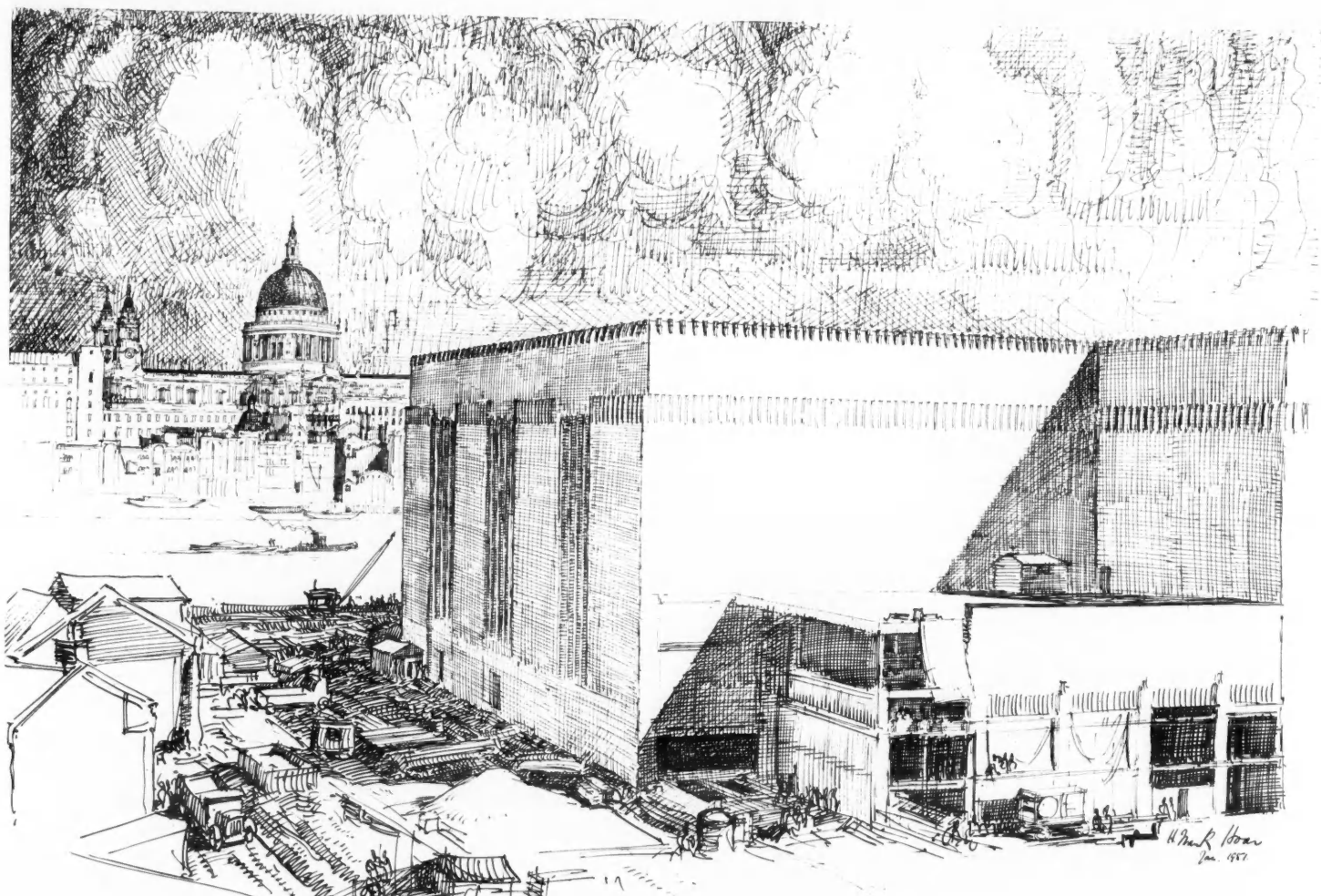

CHANGING LONDON, No. 15.—The Bankside Power House, with St. Paul's in background.

From a pen-and-ink drawing by H. FRANK HOAR